THE TIMES
Higher Education
SUPPLEMENT

London University faces 15% cut

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by Ngaio Crequer

London University needs to be 10 per cent smaller and 15 per cent cheaper by the end of the decade, according to the discussion paper released this week by the Swinnerton-Dyer committee on academic reorganization.

The paper, which essentially confines itself to saying what the problems are and what the financial effects of the overseas student fee policy, and Government spending cuts will mean, leaves open the real question of what should be done.

In some quarters the paper is seen as being unduly alarmist, with its estimate that real income could drop by between 15-20 per cent over ten years. But more generally, it has been seen as a model in restraint, amounting to merely a set of tables which could have been easily compiled at the beginning of the exercise.

Some of the tables show the remarkable differences between institutions as to the cost of providing subjects and the cheaper colleges will hold this information to their heart.

The paper asks members of the university whether they can utterly reject a policy of redundancy. The Association of University Teachers says that the paper demonstrates that if the university wants to save money the last thing it should do is declare redundancies. The AUT also says it will support the retention of small departments, critically examined in the paper, and small colleges because they contribute to the research and teaching excellence of the university.

Members of the university have been invited to make comments by the end of March and the committee is expected to make a final report by the end of the year.

The paper invites comments on the federal structure of the university and this kind of debate, whether the university should have strong leadership and direction from the centre, or whether schools should be more free to guide their own destinies, may well be relevant in the appointment of a new vice-chancellor.

Nominations for this post, under the new statutes, closed last week and two favoured contenders are Lord Flowers, rector of Imperial College, and Dr Bryan Thwaites, principal of Westfield. The statutes provide for the appointment of a vice-chancellor for four, and then a further four years.

Lord Annan, the present vice-chancellor, has said that if the university cannot find such a person he would agree to stay on for another year, although he thinks this will not prove to be the case, and that a long-term appointment is preferable.

The new statutes also provide for a newly constituted academic council. London University faces therefore a reorganization of its administrative structures as well as an examination of its academic direction in coming months.

Swinnerton-Dyer discussion paper, page 4.

Leader, page 27

Fine art student Nick Norbury from Middlesex Polytechnic, working on a mural commissioned for a housing trust project at Wood Green, London. The mural depicts a circus scene with eight characters.

£900,000 for Newcastle Poly

Newcastle Polytechnic was this week allocated £900,000 from the rates ending all speculation about possible course closures and the future viability of the institution.

This means the polytechnic needs to find savings of some £800,000 to meet a projected shortfall over the next year of £1.78m. Governors have already agreed cuts of about £735,000.

Mr Gordon Campbell, assistant director, said all danger of course closures had now been removed and the polytechnic could look to keeping up its high standards.

Cuts already made mean two small halls of residence and two academic annexes have been closed. Last week students mounted a lecture boycott in protest of the magnitude of cuts first discussed.

A leaked document suggested £1.78m cuts would jeopardise the validation of certain courses. The city's education committee said it had now made a realistic contribution to safeguard the future of the polytechnic as one of the best in the country.

Councillors' bid to curb part-time wo

by David Jobbins

A London borough has been accused of trying to thwart the [illegible] nationally-negotiated agreement signed as a first step towards rata payment for part-time [illegible]

Councillors at Merton [illegible] ordered steps to be taken to ensure none of its part-time staff teach for more than hours a week from September [illegible]

Their decision follows last year's agreement in the Burnham [illegible] education committee that [illegible] teaching more than 60 per cent of the full-time week should [illegible] associate lecturer status from the date. The effect of the council's decision is that none of its 34 part-timers currently qualifying [illegible] associate lecturer status and [illegible] rata pay will no longer do so.

The council is also not [illegible] recommended increases for part-timers until they are legally obliged to.

A number of authorities are believed to be considering [illegible] action, but Mr Keith Scriven, assistant secretary, salaries, of the National Association of Teachers in Further and Higher Education, said: "Merton is the most [illegible] ous case of which I have heard but is the case of an authority [illegible] clearly reneging before the ink is dry on the page."

Merton is clearly able to take the action on which it has embarked. An official attached to the Burnham management panel earlier said the agreement [illegible] related to the numbers of staff in post as at September [illegible] year, and included [illegible] preventing authorities from [illegible] ing the hours of staff [illegible] employed.

The employers' side has an appeal from the teachers for a joint statement that ties should not reduce hours.

A spokesman for MPs there was no question of authority acting illegally.

To give the 36 lecturers in the [illegible] colleges in the associate lecturer status mean they would be [illegible] employed on non-teaching [illegible] a cost equivalent to 11 [illegible] staff.

Spend, says T[illegible]

An immediate £200m [illegible] restore higher education [illegible] to its level before the [illegible] tive Government took [illegible] demanded by the Trades [illegible] Congress in its plan for [illegible] recovery.

The cash should be [illegible] divided between the [illegible] and the maintained sector, [illegible] says. The cash is part [illegible] to enable local authorities [illegible] restore services cut since [illegible] including adult education [illegible] ordinary grants.

The entire package, which [illegible] to industry and restoration [illegible] services would cost £6.2 billion [illegible] 1981-82, according to the TUC, [illegible] this would be partly [illegible] higher tax revenues and [illegible] benefit payments as more [illegible] will be on work, it believes.

NEXT WEE[illegible]

Malcolm Bradbury at Bri[illegible] life in America.

Peter Knight on pooling and [illegible] block grant.

R. A. Gekoski on Lionel [illegible]

Alan Montefiore on philo[illegible] contrasts between Britain [illegible] Europe.

Part-professions III: issues [illegible]

New books in sociology and [illegible] engineering.

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IUC to become unit within British Council

by John O'Leary

A merger between the British Council and the Inter-University Council for Higher Education Overseas was announced in the House of Commons this week.

Mr Neil Marten, Minister for Overseas Development, ended more than a year of uncertainty with his statement that from April the work of the IUC would be carried out by a higher education unit within the British Council.

A new and independent Inter-University and Polytechnic Council will nominate members of a standing committee of the British Council to guide the work of the new unit. Its chief officer was to be appointed yesterday from within the ranks of the British Council.

The appointment has already led to the resignation of Dr Alan Russell, the former director of the IUC, whose job has been sacrificed to satisfy the conditions for the merger. He left his post a fortnight ago and has returned to the EEC Commission, from which he was seconded last April.

Dr Russell said he felt let down by the IUC and the Overseas Development Administration, who recruited him from Brussels. "My view is that, although the appointment was for only a year, that was put down to budgetary reasons and I certainly do not think I would have come to the IUC if anyone had said it would be for just nine months", he said.

"My regret, which I have expressed to the executive committee, is that I have participated in planning the new arrangements not just because it was the mandate and probably the lesser of two evils, but because I thought I would have the opportunity to actively shape things when it was all settled", he added.

Dr Russell said the vice-chancellors had run up against a stone wall in the British Council's insistence that one of their own staff be appointed. But he said he also considered that the review had taken insufficient account of medium and long-term educational issues.

Mr John Burgh, director general of the British Council, said this week that he had been bound to insist on making his own appointment to head the new unit, since it would have financial implications beyond the former province of the IUC.

Dr Frank Thistlethwaite, chairman of the IUC, said that the vice-chancellors had argued for Dr Russell's appointment but accepted Mr Burgh's right to the final decision. The new arrangement would protect the jobs of all other staff at the IUC and would have considerable benefits for the organization.

The ODA expects £500,000 per year to be saved by the new arrangements, which will be reassessed by members of the IUPC after three years, when they will have the option of reverting to the present system. The ODA is to provide a budget of £2,430,000 for the work of the new standing committee in 1981-2.

There will now be no geographical limitations to the activities of the IUPC. It will move eventually into the British Council's premises but for the moment it will continue in its own building under the charge of the former deputy director, Dr Ian Maxwell.

Leader, page 27

£1.5m cuts—at Edinburgh

Edinburgh University has announced its worst cuts since its budget of more than £15m was given a year ago. Sir Edward Dr John Burnet has told Edinburgh will have to save 5 per cent of its annual income in little over one financial year.

Unique departments are in grave danger of closure, and Dr Burnet revealed that the university has already had to leave five chairs vacant in connection with medicine, pharmacology, dynamics, civil law and chemical engineering.

Particular expression of fear has been the threatened loss of fire science, established seven years ago, and unique in Europe.

Engineering is presently concerned to determine the effects of fires. Research which could help not only in the service departments was set up [illegible] Despite heading [illegible] there have been inadequate [illegible] "But last year [illegible] Dr Gregg Nelson, vice-[illegible] the plan [illegible] would [illegible] [illegible]

Teacher training off target for 1980s, claims DES

By Patricia Santinelli

Nearly twice as many new teachers are being trained on current planning figures than will be needed by schools during most of the 1980s, according to a Department of Education and Science paper.

The DES argues in the paper that the current figure for annual output of 17,000 newly trained teachers is way off target, and that a more realistic figure is 10,000 or less.

The paper, which has been sent to the Advisory Committee for the Supply and Education of Teachers, sub-committee on teacher training, is in form a major part of discussions at the next meeting of the committee later this month.

The paper emphasises that the figure of 17,000 was based on a [illegible] planning plan of some [illegible] which would result in an estimated annual demand of about 30,000-32,000 vacancies, half of which would be taken by returners to the profession, and the remainder by newly qualified entrants.

These figures are now wrong the DES says because the planned stock of teachers up to 1984 will be lower than original figures, and beyond that period are not known. A second factor affecting numbers is the considerable reduction in the wastage rate of teachers as a result of the present high unemployment.

This means that within constant staffing, annual vacancies would not exceed 20,000 until the later part of the decade.

The DES warns however that one unknown factor might affect this conclusion. Up to now returners to the profession have been of sufficient quality to compete for jobs, but it is impossible to assess whether employers will continue to consider them in the face of much fiercer competition from newly trained and more highly qualified teachers.

ILEA warned on spending

The Government has warned that extra financial controls will be imposed on the Inner London Education Authority if it continues in its unchecked extravagance".

Mr Mark Carlisle, Education Secretary, this week told MPs that the weight of educational opinion meant that the ILEA would not be broken up. But he said, the Government is to consider further measures to curb its "abuse of the rating system".

ILEA is set to approve a standstill budget of £694m next Tuesday, including £61.5m for higher and further education in Inner London.

"The long-term retention of the single education authority for Inner London is justified only if the authority shows it can give the children and its students of inner London a good service in all phases of education at an acceptable cost. It is up to ILEA to put its house in order," the Duchess said.

College lecturers staged a friendly lobby outside London's County Hall this week in support of the Inner London Education Authority's decision to approve a budget of £699m for 1981-82. The budget will maintain all existing services, with £167.5m for higher and further education including £63.5m for polytechnics and higher education colleges. It means a 63p rate precept and is seen as deliberate defiance of Government attempts to cut local authority spending.

V-cs to ask for redundancy cash

Vice-chancellors are to meet Mr Mark Carlisle, Secretary of State for Education to ask if there will be any extra Government money if universities are "forced to make redundancies".

Several vice-chancellors have said that a special fund would have to be set up if universities had to make large reductions in staffing. Members of the Committee of Vice-Chancellors and Principals have decided to see the minister to make representations on the universities' impending financial situation.

They will stress they have already done everything they can to cut costs and are alarmed that the Government does not seem to realize the implications. They expect to face further cuts of up to 7 per cent this year and fear the situation will worsen.

The committee will also advise its members that if they think they can maximize their income they should charge above the new recommended fees for overseas students. This will be a new departure for the universities who last year, with a couple of exceptions, kept their fees uniform.

£500 shortage subject bonus postponed

by Patricia Santinelli

The proposal to attract high calibre graduates into teaching mathematics and physics by offering an extra £500 on their grants has been delayed until next year.

A pilot scheme which was to run from September in six institutions at a cost of £30,000 has hit snags which would make selection procedures difficult, says the Department of Education and Science.

It has told local authority associations that almost half the places for the Postgraduate Certificate of Education for next year have been filled or are on offer. Applications for PGCE maths and physics have continued to improve—applications for maths are 690 compared to 518 last year and for physics 247 opposed to 178.

"Several of the bodies concerned with the education of teachers have recommended postponement. The Government accepts that it will now be difficult to run the scheme in the current season without disrupting the pattern of recruitment. It has therefore decided that the first scholarships should be offered for courses in 1982-83", says a DES letter.

This promise will be kept because the rise in PGCE enrolment will not necessarily be sustained and in any event the scheme was aimed at quality rather than quantity.

The main body of opposition to starting the scheme this autumn is thought to have come from the colleges. They pointed out that the best recruitment period for the PGCE was spring not autumn and therefore the best students might have already been committed, resulting in the scheme not having the desired effect.

The National Union of Teachers has already said that it is extremely sceptical that the scholarship scheme would make any significant contribution towards solving the shortage subjects problem and that only if the main risks might be the guarantee of jobs to candidates who might prove ineffective teachers.

It believed that it would be more appropriate to withdraw the exemption policy which allowed graduates in maths and physics to enter teaching without any professional training.

National body plan goes to Cabinet

by John O'Leary

The Department of Education and Science is rapidly pushing its proposal to remove higher education from local government through the Cabinet's committee machinery, in spite of mounting opposition from the local authority associations.

On Tuesday the proposal, which involves transferring 98 polytechnics and colleges to a new centrally funded system, was discussed by Cabinet Committee H, which is chaired by Mr William Whitelaw and deals with home and social affairs, including education.

The proposal has already been through a sequence of bilateral discussions between the DES and other departments, where it is understood to have been given a mixed reception.

Although the Treasury is reported to favour the scheme, other departments are sceptical about the cost-effectiveness of another major reorganization within local government and are citing the example of the health service.

The DES is still maintaining official silence about its intentions and this week refused a formal request from the Select Committee on Education, Science and the Arts to see a copy of the internal letter from Mr Carlisle reprinted in last week's *THES*.

This letter was circulated yesterday at meetings of the policy committee of the Association of Metropolitan Authorities and the education committee of the Association of County Councils.

Although they have still received no official indication of the DES response, the local authority associations are bitter about the pace at which the DES is developing its plans to remove advanced further education from local government.

Disclosure of the Government's intentions is likely to have jeopardised DES hopes of securing the cooperation of local education authorities in implementing an ambitious programme of spending cuts in public sector higher education.

Before the scheme was disclosed, local government officers had agreed to set up a working group

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Welsh universities likely to merge

by Ngaio Crequer

Two universities in Wales are likely to merge and become a test case for the university system under pressure to rationalize and show greater collaboration.

Both principals of the University of Wales Institute of Science and Technology, and University College, Cardiff, are in favour of merger, and although there has been limited formal discussion of the proposal as yet, talks are taking place with the University Grants Committee.

The UGC said at the end of last year that there had to be a strong measure of collaboration between individual universities if the system was to be reshaped to meet new demands and cope with limited finance, and that there would be more direct intervention than in the past.

The two universities exist almost side by side in Cardiff, with about 3,000 students at UWIST and 6,000 at University College. In 1977 the UGC asked the two universities and the Welsh National School of Medicine to draw up an outline growth plan to eliminate unnecessary duplication, but this plan foundered.

Recently there have been plans to combine engineering at the two institutions into a single faculty, but this failed when the UGC said it could not fund a new site for engineering buildings at UWIST.

The UGC then suggested that the institutions should consider combining the University College faculty of applied science with the UWIST schools of engineering.

This was not thought to be viable, so the two principals decided on a merger of the two institutions. The principal of UWIST, Dr Trotman-Dickenson, said: "I have agreed with Dr Bevan, the University College principal, that the UGC should examine whether it wished to issue an invitation to the Council of UWIST to operate as a single university."

The proposal, a massive jump from just merging a faculty, has taken many staff by surprise. Many only heard of it by reading a memorandum on a department noticeboard.

The local officers of the Association of University Teachers are likely to call for more information from the UGC and want assurances that job security and prospects will be protected. Staff at UWIST are to write to all Welsh MPs making them aware of the proposal.

Dr Trotman-Dickenson said this week: "Here are two institutions within a few hundred yards of each other in Cardiff. If the two were combined it would be the biggest university in the country without a medical school."

He said that a large number of matters would have to be considered, such as the structure of the new body, but that he did not see any likelihood of redundancy. He said there was already a large degree of collaboration in a number of departments. There would be no immediate savings, but there could be in the long term.

Senate has yet to discuss the idea but it will be considered by council and court on February 20.

Dr Bevan, principal of University College, said he would be guided by his senate. "I told them that Dr Trotman-Dickenson had said we should absorb them and that he should serve under me until I retire.

"I have been of the view for some time that this was the proper way forward. We have to think of ways of rationalizing the whole of society at the moment.

"But I am not prepared to go into this unless the position and prospects of our staff are preserved. It would be sensible for this kind of tension to be removed." He said that the first common intake of students might be in 1983, which is the University College centenary year.

Dr John Baty, president of the AUT at UWIST, said they were seeking more information. "We are prepared to consider any reasonable proposals but we must have assurances about tenure and job prospects."

A member of his executive, Dr Graeme Holmes, said the way the latest proposals had been floated did not induce confidence and that there was disquiet that the two principals may be pre-empting many decisions in advance. "If the intention is to make Cardiff a trial example for university college mergers to take place elsewhere in Britain then the manner of carrying out the initial moves in this instance constitute a disquieting precedent in decision-making", he said.

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Manual workers reject 6 per cent

by David Jobbins

University manual workers have bitterly rejected a 6 per cent pay offer. The increase is worth £1.45 to £4.15 a week to the 33,000 porters, catering and cleaning staff.

Four hours of negotiation raised the offer on the £54 minimum rate from £3.28 to £3.45 a week—"the price of a pint of milk", commented Mr Rodney Bickerstaffe, trade union side secretary of the central council for non-teaching staffs.

The main union, the National Union of Public Employees, is seeking a public inquiry into the salaries and perks of vice-chancellors who in Mr Bickerstaffe's words are "sitting like feudal barons lecturing us on belt tightening".

NUPE wants its sponsored MPs to find out from ministers if it is true that the offer is worth less than 1 per cent of a vice chancellor's weekly salary.

"If the manual workers get a 10 per cent increase in earnings—let alone basic wages—they would still not be overpaid. Many of them take home less than £44 a week. Our members are not prepared to tighten their belts to the point where they break while other people in the universities are getting paid very well", Mr Bickerstaffe said.

Friday's talks were apparently soured by press coverage of remarks by Mr Bickerstaffe about the vice chancellors and their attitude to the lower-paid university workers.

"Methinks they protest too much", he said this week. "If they say they are paid high salaries because of their highly responsible posts, that responsibility us employers includes the 33,000 manual workers. They are just abrogating their responsibility by hiding behind the skirts of the Government six per cent policy."

The two sides are due to meet again later this month.

University white-collar workers' leaders have reacted with disappointment and an accusation of sex discrimination to last week's recommendation that a 5 per cent shortfall in pay should be the subject of negotiations.

They were meeting the university authorities this week to discuss the report from the standing commission on pay comparability.

"A disappointing report which goes only a small way towards recognizing the real worth of our members", said Mrs Rita Donaghy, chairperson of the National and Local Government Officers' Association national universities committee.

"Not only has the commission discriminated against women because they are low-paid and must remain low-paid in the terms of the award, but it has refused to compensate for the abysmal pension schemes in universities because women outside receive lower pensions than men."

The commission found that university clerical staff were on average 5 per cent underpaid despite a 1.5 per cent interim award last summer. It said the extra 5 per cent should be the subject of negotiations to determine the baseline for the 1981 pay round.

The report says that the shortfall was as high as 10 per cent for the lowest-grade clerical staff—many of them female. Those in the middle grades were 2 to 5 per cent behind, but the highest "executive" grade was 9 per cent ahead.

Negotiators acting on behalf of the university computer operators have called on the commission currently examining their case to make a firm recommendation rather than suggest that their findings should form the basis for negotiations.

The report, one of the last two being handled by the commission, is expected to be submitted to the Prime Minister early in March.

The reference, which is part of the last pay round, has July 1 last year as a base date. The operators belong to the Association of Scientific, Technical and Managerial Staffs and the National and Local Government Officers' Association.

Mr Russell Miller, an ASTMS national official, said the commission had also been asked to discount questions such as the fringe benefits enjoyed by computer staff. "We have also advised the commission we do not think it appropriate to include a recommendation on shift payments, which should be left to normal negotiations."

Allen warns of researcher shortage

by Robin McKie
Science Correspondent

There is now a very serious shortage of good engineering researchers applying for funding for work, the chairman of the Science Research Council, Sir Geoffrey Allen, said this week.

Sir Geoffrey was speaking to the Fellowship of Engineering when he warned that he could not underestimate the problem now facing the council. "We can manage to get the money for research programmes but we cannot make the best people come forward for funds. They must do that themselves", he said.

He added that the poor response of first-class researchers to engineering work was the main problem that now faces the SRC's engineering board. In particular he highlighted the heavy engineering side of the board's activities as the major cause of difficulties. This included production, civil and particularly chemical engineering which had suffered a sudden downward trend in good research proposals.

"The only way ahead is to strengthen collaborative ventures between universities and industry", Sir Geoffrey said. "Good academics have got work outside their departments on real rigs and not play all the time with toys inside universities."

Sir Geoffrey also highlighted other problems facing engineering research which stemmed from sources outside the departments directly funded by the engineering board. In particular, he stressed that difficulties facing the science board of the SRC, which funds basic research such as chemistry, biology and physics, were causing problems.

While biological research was booming, physics was in "rather a bad state, he believed. This was of direct concern to engineers because a great many engineering developments were first derived from original discoveries in physics—such as work in solid state physics and its ultimate effect on electronics.

"It has taken the science base three years to realize that there is something to worry about when it comes to physics research at universities", Sir Geoffrey said. "We are going to feel the effects of that in the next five years. I can certainly say that everyone in the garden is not lovely."

Army service condemned by union

by Patricia Santinelli

An urgent call on the Government to deny that it has any plans to introduce military training for the young unemployed on the Youth Opportunities Programme came from the leading lecturers' union this week.

Mr Mick Farley, assistant secretary further education at the National Association of Teachers in Further and Higher Education, said that any such proposal would not only be unacceptable but would discredit the programme and lead to the withdrawal of existing support and good will.

"Certainly, it is not what YOP is about, and, as with suggestions of enforced community service, will be utterly opposed by those concerned to see all 16- to 19-year-olds given proper opportunities for vocational preparation, including further education during their transition from school to work," Mr Farley said.

He added that such suggestions were totally inconsistent with the Government's stated objective of eventually providing for every 16- and 17-year-olds not in education or in a job vocational preparation lasting up to the age of 18. He called for a reaffirmation of this commitment and the setting of an early target date to fulfil it.

So far Mr Jim Prior, Secretary of State for Employment, has confirmed that his department and the Ministry of Defence were discussing what assistance the services could offer to young people, but has ruled out the prospect of conscription.

The plan does appear to have some, although not widespread, support from the Ministry of Defence and Conservative MPs, but on the whole is thought to be unworkable and too costly to implement.

Some youngsters on YOP are already undergoing some form of military training under community schemes run by the Ministry of Defence and sponsored by the Manpower Services Commission.

One of Sir Arthur Conan Doyle's earliest known manuscripts, a essay on Thomas Carlyle, is presented to Edinburgh University library by his daughter, Dame Jean Conan Doyle. Receiving the manuscript is the Very Rev Father Anthony Ross, the university rector. The centenary of Carlyle's death is being marked this month by a series of events organized by the university's English literature department. Sir Arthur Conan Doyle graduated in medicine from Edinburgh University 100 years ago.

Four million workers are being paid to study, says report

by Charlotte Barry

Up to four million people a year receive some sort of paid educational leave, concludes a report by the National Institute of Adult Education and the Society of Industrial Tutors.

This involves about 20 per cent of the workforce and represents 26 million working days a year. But the report, due to be published later this month, confirms that the overwhelming amount of provision is vocational.

Paid educational leave is weighted heavily in favour of managers and professionals who are ten times more likely to receive it than other workers. Men are ten times more likely to get paid study leave than women, as are those in their 20s.

The report, which was sponsored by the Department of Education and Science and the training services division of the Manpower Services Commission, estimates that two thirds of these people were given formal "in-house" education or training by their own employers.

The rest were trained mostly by universities and colleges or other educational bodies such as the Workers' Educational Association. Most of these received an extended form of first training for work such as City and Guilds or short mid-career courses.

Above 80 per cent of incompany courses are given for vocational training. Health and safety training and industrial relations make up most of the rest. The only significant volume of non-vocational provision was for the trade union movement, the report says. It also accounts for only three per cent of all student places outside universities.

It points out that little paid study leave (except for pre-retirement education is given "for education's sake" or for the acquisition of knowledge or skills relevant to wider work. Non-vocational help is almost exclusively developed in the courses of vocational study and go to those who already have and better education than ordinary working people.

Significantly, only a quarter of vocational students rated the acquisition of skills and information related to their jobs as the most important benefit of the course of study, as did a third of trade union students.

The report recommends that positive Government action should enable a wider and more equitable distribution of paid educational leave. It also argues for more leave for general education, not directly connected with the workplace.

Key areas identified include education for public officers and local councillors and school governors; education for political participations in decline; and adult literacy. Another job-less group, students, in particular women, gain access to higher and further education; remedial courses for young people; preparation for "life roles" such as parenthood and retirement.

Review group criticizes 'authoritarian' college

by Olga Wojtas
Scottish Correspondent

The director of Glasgow College of Technology has come under strong criticism from a special review group set up by Strathclyde Region Education Commitee to examine the operation of the college.

The group was established four months ago by Strathclyde region, which finances the further education college, following staff allegations that the college was being run in an authoritarian and undemocratic way.

And the review group, which interviewed the chairman of the college council, staff members, representatives of teachers' organizations and the director of education, as well as considering written reports, has echoed the staff complaints.

The root of the problem, says the group's report, is clause 17 of the college council's constitution, which makes director Dr Reginald Beale responsible to Strathclyde's director of education for the college's internal management.

"It makes the role of the director vis-a-vis the college council ambiguous and we believe the director has used this ambiguity to assume to himself much greater independence of action than we feel he ought to have", says the report. "However, we also believe that he has not considered himself subservient to the director of education."

The director of education, says the report, has in the main chosen not to exercise the full authority for the detailed running of the college which clause 17 implies, and the group urges that the clause be revised to make Dr Beale responsible directly to the college council.

However, the college council itself does not escape criticism. The review group describes it as a "remarkably passive body" which has been ineffectual in fulfilling its role as the ultimate authority for the college's management and supervision.

"It has allowed a situation to develop within the college where an atmosphere of mistrust and suspicion prevails and criticism, much of it valid, of all aspects of the management and supervision of the college abounds", says the report. It adds that if this is to be dispelled, the council must take a much more positive role in running the college, and take steps to remove the widely held view that it is merely the tool of senior management.

The group recommends that the council undertake a complete review of the college's internal management, reporting back to the region by May. It should clarify amongst other things its role as the principal body with overall control of the college, and discuss mechanisms to ensure that consultation and decision-making are more widely diffused throughout the academic community.

The group suggests that more control over academic planning and minor adjustments to the budget be given to the council, and that if it can satisfy the region that it has taken steps to allow the college to be managed efficiently, this could be followed by a revised college constitution.

There is no cohesion within the directorate of the college, the report maintains, and it calls for greater leadership in executive matters from the group comprising the director, his two deputes and the assistant director. However, it warns: "By 'leadership' we do not mean 'dictatorship'. There has been too much of a tendency to this in the past, but clear and responsible guidance and management of the executive business of the college in a manner which is fair and impartial."

Strathclyde region, says the group, must remain responsible for deciding the total student capacity and financial resource of the college, and take on the power to appoint the college's depute directors.

Teatime TV battle won by OU

by Charlotte Barry

The Open University has won its fight to retain an early evening slot on BBC2. Signs of a compromise are beginning to emerge between the two sides following a meeting between the OU and the chairman of the BBC board of governors.

But the OU is still unhappy about the rate it is being forced to switch from radio broadcasts to the use of audio cassettes for its students.

Last year the BBC told the OU it wanted to reserve the whole of the early evening on BBC2 for general broadcasting from 1982 to compete with Channel Four. The OU resisted this move on the grounds that it would deter foundation year students and future students.

Following the meeting with the chairman of the board of governors which broke the deadlock, the BBC has written to the OU with a new set of proposals. These would reaffirm the BBC's guarantee that the quality and stability of core transmission times on television would be maintained.

At the moment the OU transmits about 35 hours a week on BBC2. Over the past few years its early evening slot has been gradually whittled away from two hours to half an hour on weekdays. Other transmission times are from 6 am during the week and from 8 am at weekends.

The proposed cutbacks for OU programmes on Radio 3 the university is finding more difficult to accommodate. The BBC is still insisting on a cut to 15 hours a week in 1982 from the present 22 hours. Last year it dropped all OU programmes from Radio 3 during normal broadcasting hours.

The OU already produces 250,000 audio cassettes every year and says it cannot step up production to the necessary new level by 1982.

OPEN LEARNING: The Open University's new vice-chancellor, Dr John Horlock, congratulates some of the OU staff who have just graduated from the university. Pictured (from left and right) are Gladys Viggars, a technology course coordinator and Claire Coltman of the exams section. Altogether 251 OU staff are taking the university degree courses this year in their spare time.

Lecturers decide pay strategy

First indications from polytechnic and college lecturers of a confrontation with local authority employers over the 6 per cent pay limit will emerge this weekend.

The National Association of Teachers in Further and Higher Education has called meetings of its regional councils to consider the attitude of the 73,000-strong union's branches to a pay strategy suggested by the union executive which is likely to mean a final claim in line with the school teachers' 15 per cent.

The employers' reaction will be tested next week when the Burnham primary and secondary committee meets for the first time, but it is clear that 6 per cent is the likely opening gambit. This will be a useful indicator when a special Natfhe national council puts the final touches to the lecturers' claim on February 21.

As well as projecting the movement in pay and prices to the April settlement date, the cooperation with other teacher unions and ability to unite the membership are crucial to the claim.

Natfhe is certain to insist that the September 1980 salary scales should be the baseline for the negotiations, and the union's executive is to propose that the review of structure recommended in the 1980 arbitration report should be an integral part. The management side is known to be hostile to the idea of an independent examination of this kind.

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College's 98 per cent success

Some 98 per cent of student teachers and 90 per cent of other graduates from the City of Liverpool College of Higher Education found jobs or places on further courses last year.

A report by the college's Careers and Appointments Service says that the figures are probably even better by now, since they were compiled two months ago. At the beginning of December, only 15 of the 329 qualified leavers were known to be unemployed.

The graduates' success is attributed to extra effort and meticulous attention to detail by staff and students. The careers service had warned final year students last autumn that "great efforts" would be needed if they were to obtain suitable posts".

Graduates from the college are becoming better known and highly respected by employers, particularly in management positions, says the report. Its small size and teacher training background is said to provide an excellent background for such posts.

Of the 1980 leavers, the largest number (36) went on to further study. Some 60 per cent of BEd graduates found jobs in secondary schools.

Techno park to link students to business

The Department of Industry has confirmed a grant of £10,000 to aid plans to link a £1m technopark for small businesses to the Polytechnic of the South Bank (PSB), putting industry and education "check by jowl".

The polytechnic is completing feasibility studies for the project (*THES*, January 16, 1981), which has already attracted promises worth £500,000 from private investors, and support from the Midland Bank, City institutions and Southwark Council.

The techno-park will act as a kind of clinical hospital allowing students first hand industrial experience, as well as a protective "nursery" for small businesses.

Dr John Brigden, director of PSB, hopes the techno-park will help to regenerate the local economy, forge new links between polytechnic and community, and develop the applied work of PSB.

A spokesman for the DoI described the project as an exciting step towards bringing industry and education together.

● Philip Wharmby designed scheme A of the techno park and not Philip Whakenby, as stated in *THES*, January 16, 1981.

Three vote to stay with NUS

Reading, Aberdeen, and Loughborough universities have all voted against motions urging disaffiliation from the National Union of Students.

The votes will severely dent a blitzkrieg campaign being run by moderates in the Federation of Conservative Students to encourage student unions to pull out of the "undemocratic" NUS.

The most significant vote was at Aberdeen, where the FCS were determined to make the university the sixth out of eight Scottish universities to leave the NUS in recent years. A general meeting vote was lost by 4,000 to 912.

At Loughborough students voted by 950 to 50 to stay with NUS, and a referendum at Reading came out in favour of NUS by 1,081 to 912.

The NUS is taking legal advice on campaign posters used by the FCS urging students to "save money by disaffiliating" from the union.

Meanwhile, Conservative Central Office is one of the bodies standing for the NUS presidency at the union's national conference starting on March 30. The other candidates are: Helen Connor (Labour Students); Jan Nielsen (Socialist Workers Student Organisation); Ann Henderson (Socialist Students Alliance); Chris Jones (FCS); and Nell Jacques (Ecology Students).

Bid to oust poly governor fails

An attempt by students at Manchester Polytechnic to unseat the chairman of the governors failed last week by 23 votes to 9.

At the governors' meeting on January 30, Mr Mike Palmer, president of the students' union, moved a motion calling for the resignation of Councillor Norman Morris, who beside being chairman is also leader of Manchester city council.

Mr Eddie Smith, union treasurer, seconded the motion. Mr Smith said this week that though he and Mr Palmer were student representatives on the board of governors, they were mandated by a union general meeting to call for the resignation of Mr Morris.

"As leader of the city council he has been implementing £1m worth of Government cuts which have adversely affected the poly, when as chairman of the governors he should have been resisting them. It's his job to defend education", said Mr Smith.

Union calls for regionalization

Following last week's revelation of plans to transfer public sector higher education in England and Wales from local to central government, Scotland's largest teaching union, the Educational Institute of Scotland, has called for a transfer of education colleges and central institutions to regional authorities.

At present, education, colleges and CIs are centrally run by the Scottish Education Department, with colleges of further education administered by regional authorities.

A spokesman for the department said: "What happens in the future is entirely up to the Tertiary Council, which is looking at the tertiary sector's structure and management. We expect it to report back in April at the earliest."

The union says the education colleges are experiencing student shortage and staff redundancies and are underused while many regional colleges are overcrowded and need additional resources. These problems could have been eased had education colleges been the responsibility of regional authorities who could have diversified their courses in conjunction with developing the further education colleges.

The various branches of the tertiary system in Scotland have developed in isolation and this must be changed in the public interest, says the union. In terms of efficient management, democratic accountability and decision making at local levels there would be advantages in the three branches of the non-university tertiary sector coming under regional control, provided an equitable financial system could be developed.

The transfer would also make flexibility easier within a region in response to the needs of the local community including industry, women, the unemployed and other disadvantaged groups as well as the crucial 16-18 age group. It would also facilitate close cooperation between colleges, the Manpower Services Commission and local employers to provide training and retraining schemes.

Mr Arthur Houston, further education officer of the EIS, commented: "Tertiary education in Scotland is crying out for unification, the government should end the talking, act decisively and transfer colleges of education and central institutions to the regional authorities forthwith."

Polys advice to local councillors

Conditions which the local authorities must fulfil if their links with public sector higher education are to remain intact have been suggested by the Association of Polytechnic Teachers.

APT, with about 3,000 members all in the polytechnics, says that local authorities must:

- maintain the level and quality of provision in the face of capping of the advanced further education pool;
- cooperate in setting up a system of coordination and organization which will increase efficiency in higher education;
- support extended opportunities in vocational areas of study needed for national revival;
- not obstruct attempts by polytechnics to compete with the universities in recruiting overseas students and ensuring greater cost-effectiveness.

The demands need to be seen in the context of the Select Committee's recommendation for a national body for the public sector. APT has made clear it welcomes the proposal as long as the interests of the polytechnics are not dominated by other interests.

Detained Pole dies of heart attack

Dr Leszek Kukulski, the senior lecturer in Polish at Glasgow University who has been detained in Warsaw by the Polish authorities for the past 18 months, has died, aged 50, of a heart attack.

Dr Kukulski had recently told colleagues he was hopeful that the ban on him return to Glasgow would soon be lifted.

He was promoted to senior lecturer at the university in 1977, 10 years after he first began teaching there. But after he went back to Poland on a sabbatical, the government there refused to release him, maintaining that his appointment at Glasgow had been temporary. Glasgow University, however, had copies of his resignation from his previous post in Warsaw, and insisted he had academic tenure in Scotland.

As a protest against his detention, the university last term suspended teaching of Polish. Glasgow was the only university in Britain to teach Polish apart from the University of London.

Sue Slipman to join democrats

Ms Sue Slipman, former president of the National Union of Students and now a trade union official, is poised to declare her support for the Council for Social Democracy.

Ms Slipman, one-time member of the executive committee of the Communist Party of Great Britain, has written a letter of resignation to the party this week and is now considering joining the break-away group.

The views of a number of former NUS officials, including Mr Trevor Phillips, last year's president and Mr Alan Christie, former deputy president, have been canvassed by supporters of CSD. But so far only Ms Slipman has shown interest.

She said this week she welcomed the initiative taken in launching the CSD, that the left had largely failed to present a popular alternative or to comprehend the demand for change made by feminist thinking. "I feel we need new political initiatives which can break the logjam of the left, allow for constitutional reform and set up an arena for radical democratic policy debates", she said. "There is as yet nothing to join but if the council can guarantee a space for women to operate within a new party I would choose to get involved with it. I want to be part of this new policy debate."

The Council for Social Democracy, spearheaded by Mrs Shirley Williams, Mr Roy Jenkins, Mr William Rodgers and Mr David Owen has attracted support from a number of academics and people working in the education field.

These include Lord Flowers, rector of Imperial College, University of London, Sir Charles Carter, former vice-chancellor of Lancaster University, and Lord Perry, former vice-chancellor of the Open University.

Other names include Mr David Marquand, professor of contemporary history and politics at Salford University, Philip Williams, the biographer and Tyrell Burgess, an educationist.

MPs called in to help medical institutes

by Jane Feinmann

The British Postgraduate Medical Federation has appealed to the all-party Social Services Select Committee to intervene to prevent the destruction of five of Britain's most prestigious postgraduate institutes.

The Select Committee, which is currently conducting an inquiry into medical education, was told that Cardiothoracic Institute, as well as the Institutes of Neurology, Ophthalmology, Child Health and Psychiatry —all heavily committed to research with small student bodies—could be under threat of closure by 1983.

Professor James Birley, the Dean of the Institute of Psychiatry, told the Select Committee that later this year senior academic staff from many of the specialist institutions would be asked to retire prematurely "to prevent the place going broke".

This would stop distinguished clinical academics continuing in their specialized field and would encourage medical students to leave this country.

Professor Birley said that because of the character of the specialist institutes, when economies were necessary, premature retirement was seen as the kindest method of redundancy, although it was expensive when offered to staff under the age of 50.

In its evidence to the Select Committee, the BPMF said that the (13 postgraduate institutes differed in their operation, but all had research as a major element in their work. They all also provided the facilities for the development of clinical academic medicine throughout Britain; that junior academic staff who studied at them went on to occupy key positions in medical schools; and that their international reputation brought in considerable numbers of overseas students.

The smaller institutes were due to be merged with general medical schools as recommended by the University of London, but "financial disaster could destroy them before full association can be developed", he added.

Mr David Innes-Williams, appealing to the Select Committee, said that only political action at the highest level could save the institutes, threatened by the Government's overseas student fee policy.

He said that by 1983, grants to many of the institutes would have been cut by over 50 per cent. "I cannot believe the Government intends their destruction because of a side issue", he said.

The overall result of present Government policy would be "a deterioration in clinical care, the disruption of consultant training and, in the long term, the loss of the research element in all the specialities", he added.

Battle to beat university entry grades

Students are finding it harder to get into university during the final stages of application, except in the physical sciences, according to the Universities Central Council on Admissions.

In their eighteenth report, for 1979-80 it notes changes in the kind of grades held by candidates at the "clearing" stage, when applicants still without places in September are considered for remaining vacancies.

"It seems that candidates in a number of subjects have had to do rather better in the GCE examination to have the same prospect of acceptance in this final stage of the operation. The physical sciences are a notable exception; here the standard was lower," it says.

An increase of 2,297 in total acceptances the previous year was a result of more candidates satisfying the conditions of offers made by one of their original choices of university. Now UCCA is waiting to see if the A-level grades of all accepted candidates turn out to be higher.

UCCA also notes that the number of women applicants has again increased. In the past five years the numbers of those accepted has risen from 36.9 per cent to 40.6 per cent of all home candidates given places.

"This steady increase in the numbers and proportion of women students has now continued for 15 years and the rate is not yet giving any indication of slowing down," says the council.

Applications from home students increased by 3.5 per cent more than the previous year and about 1 per cent more than the corresponding age-group increased, whereas there was a fall of 12.6 per cent in applications from overseas students, and UCCA says the indications point to a considerably larger fall this year because of higher fees.

UCCA also says that the number of overseas students accepted for October, 1981, ontry was the same as for the previous year, but the numbers of those admitted, that is who turned up and registered, fell by 16 per cent.

The Eighteenth Report, 1979-80, published by the Universities Central Council on Admissions, PO Box 28, Cheltenham, Gloucestershire GL50 1HY. Price £1.

Newcastle Polytechnic's business studies students celebrate their victory in a recent inter-polytechnic business game staged at Trent Polytechnic. The Newcastle team triumphed by producing a (hypothetical) £1.3m profit in a single day. Team members pictured above are (left to right) Julie Waterford, Vivienne Thom, Chris Dugdale, Stephen Gent and Peter Hopper.

Union drops complaints

by David Jobbins

Union disciplinary complaints against two left-wing supporters of a sacked college lecturer have been dropped without a hearing more than two years after the events which gave rise to the allegations.

The executive of the National Association of Teachers in Further and Higher Education has accepted a report from the union's disciplinary panel recommending that the complaints against Ms Marilyn Moos and Mr Martin Rolser should be dismissed. Neither have been given official reasons for the dismissal.

The case against the two was believed to be the first at Natfhe's history to survive an exhaustive screening process and be referred to a union tribunal.

The end of the case is probably the last gasp of the long-running John Regan affair. Mr Regan, a lecturer at West Ham College, was suspended by his then principal, Mr Eric Williams, and later sacked by Newham education authority. An industrial tribunal last year found the sacking was fair, and that Mr Regan's claim he had been engaged in industrial action was ill-founded.

The complaints against Ms Moos and Mr Rolser were lodged by Mr Williams, who alleged that they had distributed leaflets, suggesting that Mr Regan had been victimized, outside a national council meeting which was to consider the case.

They were brought under rule eight of Natfhe's constitution which deals with action "detrimental to the interests of the association."

'Training for all' plan launched to relieve youth unemployment

by Patricia Santinelli

Government plans to introduce a one year traineeship of vocational preparation and education for all 16 to 17-year-olds are one step nearer realization with the decision announced this week that Sussex University's Institute of Manpower Studies should undertake its development.

The scheme, to be known as the Youth Skills Project, has been commissioned by the Manpower Services Commission and will initially be aimed at those below the age of 18 and who come within the scope of the Youth Opportunities Programme.

Mr Chris Hayes, an associate fellow of the institute and director of the new project, said that the main aim was to develop a one-year traineeship that would lead to an improvement in the quality of YOP through planned work training and education on and off the job, and be directed towards the acquisition of competence.

"More specifically, we shall in the first phase of the project examine available experience in this and other European countries, especially the German 'dual' system", he said. "We shall also study options for selecting a number of 'families' of appropriate occupations/jobs/skills which could serve as a basis for a year's vocational preparation."

He believed that a traineeship in one of the "families" would open up more specific training and job opportunities without closing other options or losing sight of the uncertainty of future employment prospects.

"The institute has been chosen for the work because of its experience of local labour market studies which are to be used to suggest approaches for local use of the current study's findings. This is thought to be vital in preparing for a large scale and variety of traineeships to match supply and demand for training places in each locality.

In its report on the Youth Skills Project, the institute plans look at whether nationally acceptable standards can be set without having nationally determined methods of training or examinations and whether methods of assessing competence and progress can be designed and used on a large scale without relying on traditional examinations.

Mr Hayes says that YOP experience points towards a recognition of the learning contribution of three elements: work experience; reflection on what is learnt at work; and systematic learning off the job. Several projects now reaching fruition would provide information on the best way of combining these elements.

New set of requirements for social work students

Major changes in the assessment of social work students are to go ahead in spite of widespread opposition from lecturers in universities and polytechnics.

The Central Council for Education and Training in Social Work has finally approved the new requirements for courses providing the certificate of qualification in social work after consultation with lecturers, practitioners and employers on proposals, which were tested last April.

From September, 1983, social work students will be assessed on five areas of theory and practice and on teaching practice. The new requirements will strengthen the role of teaching practice and the status of students' reports by calling for two placements for a minimum of 50 working days.

From September this year universities and colleges providing the courses will be required to notify the council of the names of external examiners. The council has agreed to defer its decision on the proposals to include a report from external examiners when courses are reviewed.

Plans for implementing the new requirements must be submitted by the universities and colleges to the council by December 1 so they can be approved in time for the 1983 student intake.

The proposals to amend the guidelines sparked off a new controversy about curriculum uniformity which has split social work teachers and practitioners in the past.

The laying down of assessment criteria has provoked a hostile reaction from many course directors and lecturers who claim this would lead to the narrowing of syllabuses and a general lowering of standards.

They say the new requirements will lead to a technical training based on a static view of social work and social work education lacking in specialized study.

Industrial unit offers local link

Plans for a new industrial unit which will provide a measurement research service for local companies are now being prepared at the University of Manchester Institute of Science and Technology.

The centre, which will cost between £300,000 and £400,000, is to be set up by the new department of instrumentation and analytical science and is intended to be self-sufficient within five years. The unit will be the latest part of the department's plans following the recent establishment and appointment of three professors who will lead a team of five lecturers, three senior experimental officers, three technician staff, three research assistants and about 15 postgraduate workers. Proposals to establish MSc and undergraduate courses will be considered later.

The department, which has been set up through the "careful deployment of UMIST resources", according to a report in the first of its kind research work in instrumentation and analytical science in Britain. Its main aim will be to provide coordinated, trained research in the practice of measurement and will cover a variety of interdisciplinary topics.

The department's work will be particularly concerned in the detection of the different levels of physical variables such as the amount of toxic gases in blood, and pressure changes and vibrations in biological systems and will involve the way these measurements can be directly used in industrial processes.

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North American News

California surplus running out

from Clive Cookson
WASHINGTON

California governor Jerry Brown presented his 1981-82 budget to the state legislature. "The moment of truth is with us", he said.

Mr Brown was referring to the impact of Proposition 13, the famous $7 billion cut in local taxes which Californians voted themselves in 1978. Since then fiscal experts have been predicting that its full consequences would be felt only when the huge surplus that the state built up during the 1970s had been exhausted, and now the governor has told the legislature that the funds will have run out by June 30, the end of the current financial year.

Therefore Mr Brown's budget for next year, $24.5 billion, is only 1 per cent more than 1980-81. After inflation that represents a real decline of nearly 10 per cent.

The second and third tiers of the state system of higher education, the California State University and Colleges and the community colleges, will both receive 1 per cent increases, but the top tier, the University of California, is treated relatively generously with nearly 4 per cent more than this year.

Gloria Dumke, who heads the CSUC, called Mr Brown's proposals "a survival budget". "Our basic programmes will proceed, but at a reduced level", he said.

Although the governor's budget is subject to scrutiny by the state legislature, it traditionally undergoes fewer major changes than the president's federal budget in Congress.

Faculty members, whose salaries lost ground to inflation for most of the 1970s, will take another substantial cut in living standards under Mr Brown's budget. Like other state employees their pay is due to rise by less than 5 per cent.

Chancellor Dumke predicted "a very serious adverse impact on employees at a time when all 19 campuses (of the CSUC) are attempting to attract and recruit the best possible faculty to instruct next year's students".

However, Governor Brown has managed to squeeze into his budget new spending programmes to fight crime and to improve Californian technology. The latter will directly benefit the University of California.

Mr Brown wants to set up a microelectronics research centre at UC Berkeley, where industry and the state government would each spend up to $5m a year on research projects. The state will make an initial contribution of $2.6m for facilities and equipment, but specific projects will be funded only if an electronics company meets half the cost.

The microelectronics programme is a response to the increasing tendency for other parts of the United States and Canada to lure fast-growing electronics companies away from California. States such as Maryland and Massachusetts on the east coast and Colorado and Utah in the west, and the western Canadian provinces of British Columbia and Alberta, are sending representatives to California to tell executives about their tax incentives and research parks modelled on California's well-known silicon valley but without its pollution, high costs and restricted land use.

Although the 1981-82 budget undoubtedly means an austere year for most Californian higher education, college and university leaders are not screaming too loudly. They reckon that if this really is the moment of truth, as Governor Brown says, it's not going to be quite as painful as many had feared.

Some who have looked forward further into the future are even murmuring optimistic predictions about modest real growth in state budgets after 1982-83. But they are still praying that Proposition 13 author Howard Jarvis, whose political star faded last year when voters decisively rejected his second tax-cutting initiative, does not come back to life.

Miss Applebee in her late 20s. . . .

'Outrageously energetic' hockey pioneer dies aged 107

Constance Applebee, the English woman who introduced hockey to the United States during the first decade of this century, has died at the age of 107.

Hockey seemed an outrageously energetic game for young ladies when Miss Applebee demonstrated it for the first time at Harvard University in 1901—American women's sports were then limited to croquet and (very staid) lawn tennis. But she promoted it vigorously over the following three decades as director of outdoor sports and then of physical education at Bryn Mawr College, Pennsylvania, and it soon caught on widely.

The Apple, as she was known, left her full-time job at Bryn Mawr in 1929 but she returned to coach hockey almost every year from then until 1967. Former students remember her chasing along the sidelines in her early 90s.

Miss Applebee spent her last years back in England, living in the cottage in the Hampshire village of Burley where she died on January 26. But she received a steady stream of visitors from the United States where, thanks to her efforts, an estimated 200,000 women now play "field hockey" (the name Americans use to distinguish it from ice hockey).

. . . and aged 104

Medical journal loses its patience

The *New England Journal of Medicine* (*NEJM*), one of the two best-known medical publications in the United States, maintains a highly controversial policy not to publish any paper—however important the research—if the authors have communicated any of their findings to another publication, whether medical magazine or popular newspaper.

This so-called "Ingelfinger Rule"—named after the late Franz Ingelfinger, the *NEJM* editor who instituted it—is not surprisingly highly unpopular with the rest of the medical press. Last week the *Journal of the American Medical Association* (*JAMA*), the country's other leading medical journal, finally lost patience with its rival and published a double-barrelled denunciation of the *NEJM* publication policy.

Two editorials in the latest issue of *JAMA* urged medical researchers to resist: *NEJM*'s "unrealistic and elitist attitude". One writer, Gail McBride, who edits *JAMA*'s medical news section, claimed more and more researchers were succumbing to "the buttonedup syndrome" and refusing to talk to medical journalists about their work just in case they may want to send a paper to *NEJM*.

According to Dr McBride, "one result of this attempted information monopoly is incomplete and possibly erroneous reporting" because medical researchers sometimes refuse to help journalists at scientific meetings check their facts, for fear of falling foul of the Ingelfinger Rule. Since *JAMA* itself contains a news section—Dr McBride's boss—as well as research papers, it has been among the victims.

Dr Ingelfinger started his policy for good journalistic reasons: He did not want *NEJM* to be scooped by other publications. But his successor, the current *NEJM* editor Arnold Relman, has turned it into more of a moral crusade.

Dr Relman says his main concern is with the quality of medical journalism, especially in the mass media. He believes strongly that new medical research should not be written up in the popular press (except in an emergency), until it has first appeared in a reputable peer-reviewed scientific journal like *NEJM*. Otherwise the public is liable to read about a supposed cure and pester doctors, who will not have had a chance to assess the research on which it is based.

In a *NEJM* editorial last year Dr Relman urged organizers of scientific meetings to think twice before encouraging the media to cover them. He argued that preliminary results presented at meetings are often unreliable and later turn out to be misleading.

"The message for the media is that if they are really interested in the quality of the medical information they promulgate, they would be well advised to play down reports presented at research meetings and concentrate instead on other, more reliable, sources of information", Dr. Relman wrote.

The author of the second *JAMA* editorial last week, Lawrence Grouse, warned that *NEJM* was sounding dangerously like a source of infallible knowledge. "Its inevitable failures may lead people to look on medical journals with the same scepticism that they may have for the popular press", he wrote.

The two *JAMA* editors accused Dr Relman of wanting to control the dissemination of medical news in America.

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Catalogue puts Congress Library into record books

from our North American editor

The completion of one of the century's most ambitious publishing projects—and its greatest single bibliographic achievement — was celebrated at the Library of Congress in Washington last week.

Its title is *The National Union Catalog: Pre-1956 Imprints* and it is supposed to list, with essential bibliographic details, every book published before 1956 that is in the collections of the major research libraries of the United States and Canada—700 libraries altogether. The catalogue contains a total of 12m entries, written up in 755 volumes of about 700 pages each. When the venture started early in 1967 the estimate was that 610 volumes would be required and they would be completed within 10 years. "The amazing thing, in retrospect, is how close the project held to the planned pattern, despite the difficulties, mostly unforeseen, that arose on practically every front", said deputy librarian of Congress William Welsh.

The worst difficulty was financial. The project's sponsor, the American Library Association, awarded a British firm, Mansell Publishing the contract to publish the *National Union Catalog* in book form, and Mansell undertook to pay all costs and expenses of publication, including editorial work. Unfortunately these costs escalated far beyond the original estimates, Mr Welsh said, putting on Mansell "an enormous financial burden" which almost crushed the company.

The editorial work alone cost Mansell more than $12m. It was done at the Library of Congress, the United States national library, where a team of 30 professional editors and 20 supporting staff processed the millions of catalogue cards that poured in from the participating libraries.

David Smith, who was a member of the editorial team from the beginning and headed it from 1975, said he felt "quite a sense of loss" now that it was all over. "It was really a great deal of fun—and a project that few people are fortunate enough to be involved in during their library careers". But, he same time that it is completed successfully. It was a very close call at added: "I am very relieved at the times, because of the financial problems".

As William Welsh pointed out, completion of the *Pre-1956 National Union Catalog* also marks the close of the era of non-automated bibliographical control. (The era had opened at the end of the 19th century with the development of standardized cataloguing rules and uniform catalogue cards.) All the work was done manually on cards, without the benefit of computer control.

One factor that made the editorial and cataloguing process more expensive and time-consuming than anticipated was the way libraries continued to bombard the Library of Congress with cards from *Pre-1956 books* throughout the life of the project. The people who planned the catalogue had assumed that by now. . . the flow of pre-1956 cards would have ceased. Mr Welsh recalled.

How could they have estimated the catalogue's own role in stimulating further cataloguing of backlogged pre-1956 material by participating libraries? he asked. How could they have known that the automation of cataloguing would result in libraries submitting yet another generation of cards for a vast number of items already reported?

In fact three and a quarter million additional cards accumulated between 1967 and 1977; they all had to be edited arranged alphabetically and published separately as 70 supplements to the primary sequence of 685 volumes. And Mr Smith said that since the end of 1977, when the editors finally decided to stop dealing with new material and bring the project to an end, another one and a half million pre-1956 cards have arrived at the Library of Congress.

At the moment the cards are just sitting in files, waiting for the library to decide how and where to publish them. "Traffic in pre-1956 reports is still heavy; a large number of new titles still surface. So let the word go out: we need the help of librarians and scholars around the world to discover efficient ways to make this information available", Mr Welsh appealed.

The *National Union Catalog* deals with books produced after 1956 simply publishing monthly lists of new entries as they come into the Library of Congress. Cumulative catalogues are published annually and every five years, but there has been and will be no attempt to consolidate them into a single monumental work like the one just completed for the pre-1956 imprints.

Soon the Library of Congress plans to take advantage of new computer technology by changing the ongoing National Union Catalog to what is known in library jargon as "a register/index format". It will consist of a master register to which all new entries will be added in random order as they are received, and computerized indexes (by author, title, subject and date) which will refer the reader to the correct entry in the master register if he needs full details of the book. The indexes will be cumulated automatically and could be published at intervals designed to suit financial circumstances and libraries' demands.

Mansell has printed 1,500 sets of the catalogue—on acid-free paper, of course, and bound in green buckram—and sold 1,350 of them. (Surprisingly, about 500 have been bought by institutions outside North America.) Libraries that want to snap up any of the remaining copies can do so for £13,000 per set. The edition will never be reprinted—and Mansell needs the cash.

Overseas News

Lean year ahead for Australian students

from Geoff Maslen

MELBOURNE

Australian higher education students are tightening their belts for another 'lean year of academic penury.

According to the Australian Union of Students, university and college students are going into debt or drawing on savings. More than a quarter of students surveyed by the Commonwealth Department of Education in 1979 had an annual expenditure exceeding income of more than A$1,000 (£500).

Students have to struggle to earn their keep. More than a third combine their studies with either a full-time or part-time job. Fewer than half interviewed in one survey said they devoted all their time to study. In Australian colleges of advanced education 46 per cent of students hold a regular full or part-time job while in technical colleges offering diploma or certificate courses the figure leaps to nearly 80 per cent.

Although 38 per cent of university students rely on their parents as their only or main source of income, about the same proportion work full or part-time to keep themselves.

Only one in eight relies on the Commonwealth government's tertiary allowance for his only source of income. More than half of university students get no help from the government because a means test is applied to parents' income.

After considerable lobbying by students and supporters in the universities and colleges, the federal government last year raised the tertiary allowance by 10 per cent, so keeping it just level with inflation.

Income from the tertiary allowance has never been adequate for students but when it was introduced in 1974 the real value of the maximum allowance and the proportion of students eligible for the maximum were much greater than they are now.

There were other sources of students' finance, especially teacher training awards but with the oversupply of teachers many have disappeared. The real value of wages were also much higher. Since 1974 the combined expenditure on teacher trainee awards and tertiary allowances dropped by 14 per cent while in the same time student numbers rose by almost 17 per cent.

This year, the maximum allowance the Commonwealth will pay students will be just under A$50 (£25) a week, for a student living at home the maximum will be A$32 (£16) a week. But if a student earns more than A$2,000 (£1,000) a year they lose all the allowance and if the income of their family exceeds A$10,000 (£5,000) they also cease to be eligible.

How access to tertiary education is affected by the decline in student financing, was outlined last year by Professor Sir Bruce Williams, at present vice-chancellor of the Australian National University and due to take up the post as director of Britain's new Technical Change Centre later this year.

"I do not think that many people realize the extent of the quiet revolution in the practice of governments in the past five years," he said. "The abolition of tuition fees was meant to extend access to higher education but that effect has been swamped by a phasing out of teacher scholarships, by more stringent means tests and a decline in the value of tertiary allowances, by the reduction in the number and value of postgraduate awards."

Arab student numbers treble

from Benny Morris

JERUSALEM

The number of university students in the Arab world has almost trebled over the past decade, Arabist Dr Hagai Erlich told Israeli Knesset education committee members during a day-long seminar at Tel Aviv University's Shiloah centre for Middle Eastern and African studies.

Erlich, a lecturer in Tel's Middle East history department, said that between 1972 and 1980 the number of students in Arab universities rose by over 250 per cent bringing the number to over 1,000,000. In 1972 there were 375,000 students attending 22 universities and institutes of higher education. In Egypt alone the student body grew from 200,000 in 1972 to 450,000 today.

Erlich predicted that by the year AD 2000 there would be in the Arab world (stretching from the North African Atlantic shores to Iraq, but excluding Muslim but non Arab Turkey and Iran) some 12,000,000 university or college graduates constituting some 5 per cent of the total population of the 20-odd Arab countries. In 1975, university graduates constituted only 0.5 per cent of those countries' populations.

While stressing that this higher education boom will supply the leadership of the Arab societies during the 1980s and 1990s, Erlich noted that most of the Arab countries are as yet unable to absorb and usefully employ this growing number of academically trained personnel. He added that it was "not clear" whether this growing class of "alienated intellectuals" has had a destabilizing effect on their native countries.

Emigration to North and South America, Australia and, to a lesser extent, Western Europe has in this respect served as a type of safety valve. Egypt has had a massive "brain drain", with professionals and teachers in their thousands moving temporarily or permanently to jobs in the West or in the Gulf states.

Walkout threat by workers

from Emil Zubryn

CUERNAVACA

Mexican University labour disputes continue to be a major problem despite recent legislation promoting the consolidation of individual unions into a strong national organization. The National Union of University Workers (SUNTU) has been threatening to order a walkout in 27 universities throughout the republic.

Nicolas Olivos Cuellar, SUNTU secretary, said that federal and state authorities arbitrarily "broke" a strike at the University of Baja California Norte by resorting to forceful ejection of strikers from the campus by "porros" and auxiliary military forces. "Porros" is slang for agitators, informers or pseudo students installed in universities by the authorities to "maintain order".

Olivos Cuellar said the official action was "high-handed" and illegal, especially since he and associate SUNTU leader federal deputy Evaristo Perez Arreola had been conferring with governor Roberto de la Madrid for several weeks on the problem. Perez Arreola was arrested by alleged unwarranted dismissal of university personnel. There is also the matter of a review of labour contracts to take account of the high inflation in Mexico.

Both Olivos Cuellar and Perez Arreola charged that some workers "disappeared" after the invasion of the campus by authorities. Both men said that if a satisfactory account is not given, or the situation resolved, then a strike call will go out to the 80,000 members of SUNTU. The two labour leaders stressed that "no centre permits this type of violation of the Constitution".

The National University (UNAM), meanwhile, faces a new strike threat because Autonomous Association of UNAM Academic Personnel (AAPAUNAM), in preliminary negotiations, is asking for a 40 per cent wage increase. The university, although it has been granted a federal budget of near 15 billion pesos (£330,000,000), claims it cannot offer more than 30 per cent maximum. Unless ele will press for policies of promotion and job stability for UNAM professors and researchers.

Computer shortage remedy sought

from Guy Neave

PARIS

An all-out effort is to be made to increase the numbers of computer scientists graduating from French higher education. This was the goal announced with the passing of an agreement between the Ministry of Higher Education and the recently established National Agency for Computer Science.

The aim of this new campaign is to double the numbers of computer specialists and that over the next four years. It is seen as an important step to remedying a growing shortage of specialists in this field that has severely affected French industry.

At the university level computing science is to be introduced to students opting for the science *Diplômé d'Etudes Universitaires Générales*, a two-year course immediately following the *baccalaureat* as from the start of next academic year.

At present around 5 per cent of science students opt for computing. Also comprised in this crash programme is the introduction of computer usage for non-specialists. The agreement sets aside some 50 hours per year for this purpose. Ultimately, it is hoped that some form of computer education will be given to each of the 55,000 science students at present following the degree

Some measure of the importance attached to this programme can be judged from the fact that by the end of next academic year it is hoped to have some two-thirds of first and second year scientists familiar with computer usage.

In addition, more stress is to be placed on the development of microelectronics courses in the two-year university institutes of technology as well as certain *grandes écoles*. To this end the Government has placed tenders for 60 microcomputers to be used in the training of future electrical and mech engineers.

No less significant is the sion of the campaign down level. The Government has embarked on a well-publicised to install 10,000 microcomp upper secondary schools 200 *lycées* have been equip

In the elite sector *grandes* two institutes, one at Grend other at Toulouse, intend to their output of high level scientists between now and

Already some experimen been undertaken, notably in faculty at Strasbourg, the partment at Montpellier, department of economic and administration at Grenoble sities, to unveil the myster computer usage to non-scien

Speaking at the unveiling agreement, M Jacques director of the higher educ branch in the Ministry of Education, announced phantly: "No area of scien study will, in the future, esc the influence of the computer."

Professor Kamba is the first black president of the renamed University of Zimbabwe (above)

Stephen Taylor looks at Zimbabwe's university expansion in the first of a two-part

Rapid growth follows settlement

SALISBURY

With one significant exception, the transformation of the University of Rhodesia to the University of Zimbabwe has produced little change to compare with the radical reformation that has swept much of the newly independent nation in the past nine months.

Two new faculties have opened in the past year and a Bill affecting the university is expected to be put before the House of Assembly in the next few months. Curriculums are unchanged and the university has continued to function as it has since it opened in 1956, with places allocated regardless of race on the basis of academic merit.

The exception to the pattern of continuity was the resignation in the last week of Professor Walter Kamba, the former dean of the faculty of law at Dundee University, as the first black principal in the university's history.

The university in Salisbury is facing a rapid growth in the student population as whites no longer have to fulfil military obligations before starting university studies and as the number of blacks qualifying for entrance increases. The new intake this year will be about 4,100, an increase of almost 40 per cent, bringing the student population up to about 2,300.

The Government is making it extremely difficult for Zimbabweans to attend universities abroad where the facilities exist for them to study locally, due to the shortage of foreign currency reserves.

The number for 1981 is expected to show an even greater increase as it will include many Zimbabweans who will be sitting their A levels in Britain this year.

The two new faculties made necessary by expansion are commerce and law, which previously came under the faculty of social studies, and agriculture, which was part of the science faculty. In addition there are plans to start a faculty of veterinary science with the assistance of the Australian Government extraordinarily, in an area of prolific fauna. There is only one such faculty in the whole of Central and Southern Africa—at Onderstepoort in South Africa at which only whites are admitted.

There is intense speculation among staff at the university over the nature of the Bill being drawn up on university education for consideration in this parliamentary session. Until recently the university was funded directly every three years by the Treasury but it has now been taken under the wing of the Ministry of Education.

Some staff believe that the ministry may seek to africanize certain posts and influence curriculums. At present, however, there is no official indication of the measures that will be sought by the government.

Professor Kamba believes that some curriculums should be adapted to local circumstances, specifically the subjects of history, economics and agriculture.

"History, for example, should show a greater emphasis on the history of the area," he says. "There are lessons to be drawn from world history, and we should not be parochial. It is a question of emphasis."

Professor Kamba, who was born in Zimbabwe, but obtained his first degree in Cape Town, was a lecturer in comparative law and jurisprudence at Dundee from 1969 to 1977. He returned to last year and in August will Professor John Lewis.

"In the past this univ detached from the com was intended to serve operated on a non-racial society based on racial Professor Kamba says.

"With the attainment of dence it took on new respo and now must play a cr in the development of the and in responding to its

The vast majority of new this year are black, leadi predominance of almost business studies and particularly strongly the undergraduates.

Although the quota faculties was quickly filled needs elsewhere in the forced some students to their studies. A one-year qualified teachers leading to and a one-year postgraduate leading to an MEd has supported by the faculty of because the Ministry of refused to release about ment-employed teachers were needed for secondary tious secondary school

The Government has a number of senior civil university staff but posi yet advertised externally increasing proportion of are being filled by returning from universities

Of the future, Professor says: "A great deal depends existence of trust and confi tween the university and ernment. The effectiveness university's contribution country will rest on the give the policymakers a clear view. For that reason expect to retain the principle of autonomy.

The 'bloody nuisance' who rose to the top

Robin McKie looks at the Scottish MP with a relentless technique for getting what he wants

Tam Dalyell—he plagued Michael Foot's political career, but has now been appointed as shadow minister of science.

Former Conservative student leader, present Labour MP and perennial backbench "bloody nuisance" Tam Dalyell is now on the threshold of a new phase of an already remarkable Parliamentary career. Recently appointed to the position of shadow science minister, his post reflects widespread Westminster regard for a man with an impressively lengthy track record for getting results.

The scalps on his Parliamentary belt include the blocking of the Scottish devolution bill, the RAF plan to build a base on Aldabra in the Indian Ocean, the Anglo-French swing-wing aircraft project and a host of other Government "follies". These have been achieved through a dogged, relentless technique that can be gauged from his bombardment of the 1967 Labour government with 70 questions on the Aldabra issue, overcoming a Speaker's limit of 50 by simply getting colleagues to ask the rest. "I was just like a terrier bulldog", the 48-year-old MP for West Lothian recalls with amusement.

On a similar line, Dalyell recently spoke for seven hours during the Parliamentary debate on Iranian sanctions forcing an all night sitting —the first the new Tory MPs of this Parliament had experienced. More effectively, it meant that the debate was prominently mentioned on breakfast radio and opposition to the idea of retrospective sanctions was given a wide airing.

This reputation will not be lost on the present Government science minister Neil Macfarlane who will be well aware that a certain amount of calm complacent answering will deflect the earnest Tam Dalyell. Indeed, Dalyell considers his new appointment as the plum among opposition posts.

"If I could have chosen any job in shadow government myself, this is precisely the one I would have picked", he said. "It is an enormous privilege to be given the opportunity".

It is also, one suspects, an excellent opportunity for Labour leader Michael Foot to channel the activities of a man who did so much to restor his life and wreck his endeavours to establish a Scottish Assembly. Dalyell rejects this view and argues that his appointment is a measure of the "unsurpassed political generosity" of Mr Foot.

"A jolly few people after four years of my really opposing hook, line and sinker the Scotland Act for which he was responsible would have had the bigness to appoint me. I think it says a heck of a lot about Mr Foot."

What Mr Foot will get in return is a shadow minister, perhaps not considered a major theoretical political philosopher, but who will show astuteness, loyalty and an idiosyncratic strength of character. A flavour of this last quality can be measured from the fact that Dalyell remains the only old Etonian in the Parliamentary Labour Party.

It was at Eton that he passed his university entrance in mathematics before subsequently undertaking two years' national service. His time in the Royal Scots Greys made his mathematics "rusty" and turned him against the subject. On demobbing he studied economics and history at Cambridge—a decision he now regrets.

"I was also a very hardened undergraduate. We had been in tanks and the Russians really had been only five kilometres away. Many of my contemporaries had been in the Korean war and we were very mature people."

Dalyell also makes no secret of his Conservative past—at Cambridge he was chairman of the Conservative Society. It was not until he became a teacher and moved back to the Dalyell ancestral home at the Binns in West Lothian, for family reasons, that his leftward drift began to manifest itself and he joined the local Labour Party.

"The real question is whether I was ever a proper Conservative", reflected Dalyell. "I remember at Cambridge taking part in a union debate with Gaitskell, at the end of which he said he wondered why on earth I was representing the other side as I had made his case for him. There was sufficient truth in that for me to laugh at my own expense".

More manifestly, it was the suffering and unemployment in West Lothian at that time and the atmosphere of Suez, to which he was profoundly opposed, that turned him against the Conservative Party.

He stood as unsuccessful candidate for Labour in Roxburgh, Selkirk and Peebles in 1959 before being appointed deputy director of studies for the then embryo school ship project of which he was a major instigator.

Then in 1962 he achieved Parliamentary success in his own home constituency of West Lothian, an achievement he attributes more to the fact that he ran an extremely successful football team at Bo'ness High School than to his debating skills or Cambridge degree.

"When my team won the Scottish schoolboys cup, the grandfather of one of the boys decided that I should be rewarded." That reward was miners' union backing for his Labour candidature for the vacancy seat for West Lothian — which he ultimately won.

At the House of Commons, one of his first jobs was as Parliamentary Private Secretary to the then minister for housing, Dick Crossman, a politician whose well publicized indiscretions in his three major diaries offer us an insight into the activities of Tam Dalyell.

Crossman trusted him completely, labelling Dalyell as the "Sancho Panza to the Don Quixote of this diary" although he also described him as "awkward, stubborn and invisible". Indeed, the "heroic" Tam Dalyell probably earns more honourable mentions from Crossman than any other politician.

"He has sat through every all-night sitting and in daytime has got me my pairs and has been the most devoted kind good PPS as well as a very nice lodger who cooks my breakfast", Crossman recalled.

"Though I laugh at him sometimes I am unfeignedly grateful to him for all that he has done and if I had any appreciation of loyalty and friendship I would really tell him so oftener."

The regard was mutual and Dalyell recalls with pride that his 18 years as a backbencher is exactly the same period that Crossman had to wait before a similar elevation to the front bench.

Dalyell relinquished his job with Crossman for the freedom of backbenching and sat on the now defunct Select Committee of Science and Technology, a role that eventually brought him a great deal of prestige. A confidential report on a committee visit to the Porton Down chemical warfare station was leaked by Dalyell to *The Observer*—a deed for which he was brought before the House, formally found guilty of breach of privilege and a gross contempt of the House, and rebuked by the Speaker.

"I genuinely thought that the select committee document had been published because actually I am scrupulous about honour and the rules, etc", Dalyell recalled. "Apparently there were some quite innocuous pieces sidelined on the report and on that technically I was in great trouble."

But the issue did have one clear benefit, for Dalyell was then asked to write an article for the *New Scientist*—a feature that has subsequently turned into a weekly political column for the magazine. The then deputy editor and subsequent editor of *New Scientist*, Bernard Dixon, described Dalyell as one of the most intelligent people on the select committee.

"We wanted someone who would not exploit his position as a columnist but would act as a straightforward reporter on the scientific issues being discussed in the House of Commons. Tam has done that extraordinarily well. He has ridden the few odd hobby horses in his 13 years as a columnist but he has never politically abused his position".

Some of these recent "hobby horses" have included Dalyell's campaign for a legal system in which people would have to opt out of donating their kidneys for operations, and opposition to the ill-fated Peter Fry Bill on protecting laboratory animals. As part of that latter campaign, he caused much Parliamentary indignation by producing one rabbit and two mice during a standing committee following Mr Fry's confusion over experiments on the two different animals.

More seriously, he expresses serious concern that the scientific community has to face uncertainty over "yo-yo attitudes to funding". "If decent research is to be done there must be some certainty and continuity even if it is at a comparatively low level", Dalyell added.

But what bothers him more than anything else, is the very low morale of young scientists. "Recently the Open University advertised a lectureship post—they got 200 applications. For a research grant with a time limitation on it, they got 10 applications. That tells its own story, about people in science who are very unsure".

It remains to be seen just how successful this self-confessed "bloody nuisance" and man of contradictions will be in rectifying these problems. Whatever else, it can be expected that Tam Dalyell, maverick MP with a fixed code of honour, stern Scottish dominie but "loveable" private secretary and old Etonian Tory turned campaigning Labour MP will not settle for anything short of total commitment.

Number of graduates on newspapers rises

Academics frown on 'hack' degrees

Every journalist believes that there is a certain tawdry glamour about his trade, and in recent years the number of graduates knocking on the door's of Fleet Street has grown impressively. But the attitude of British academia to the training of journalists has always been sniffy and, at times, downright obstructive.

There is no obvious reason why this should be so. In the United States journalism is taken much more seriously by academics. About 40,000 students there are majoring in journalism in the 243 colleges and universities where it is taught. That figure is even more daunting in view of current estimates that the number of people actually employed in editing and reporting jobs on American newspapers is only 40,000.

A recent survey of American journalism students showed that only 12 per cent actually intended to get jobs on newspapers. The figure regarded a degree in the subject as a useful route into public relations, advertising or broadcasting.

Nevertheless, the traditions of Britain and the United States could hardly be more different. In America most editors have been through a "school" and prefer to take graduates than those in other disciplines like English. American universities usually have their journalism departments as intellectually respectable academic partners.

In Britain, the idea of training journalists in a university degree course is only just beginning to take root. The predominant tradition is on-the-job training. Few editors are impressed by aspiring reporters with degrees, and journalism graduates would be laughed out of many a newsroom. British universities, too, tend to regard the training of journalists as a mindless technical affair with no place in the world of ideas.

The *hauteur* of the universities has conspired with the traditions of the profession to block changes in the system of apprenticeship by which most newspaper reporters are trained. In 1965 pressure from the National Union of Journalists made it almost impossible for graduates to go straight from university to Fleet Street, and this has confirmed the role of the provincial press as the main recruiter and trainer of reporters.

The standard qualification for the newspaper reporter is the proficiency test administered by the National Council for the Training of Journalists (NCTJ)—a test which includes shorthand as well as basic knowledge of subjects like law and public administration.

A trainee reporter can get to the hurdle of the proficiency test in a number of ways. One method —which avoids all contact with the higher education system—is to go straight from school on to a newspaper for a period of on-the-job training leading up to the test. But a high proportion of reporters enrol on the half-dozen or so pre-entry courses run at colleges or polytechnics and supervised by the NCTJ.

Reporters who do not take pre-entry courses are trained while they are employed on a newspaper, either through in-company training schemes or through block release. All trainees, including graduates, are expected to do a period of indentures with their newspapers.

Because the NCTJ and the provincial Press are in such firm command of journalists' training, the formal pattern of entry to newspapers has changed little. But in recent years there have been clear informal changes—one of the most important of which is the growing proportion of entrants with higher educational qualifications.

In 1977 a survey by the Third Royal Commission on the Press reported that the proportion of NCTJ entrants with less than five O levels had fallen from 32 per cent in 1964 to 1 per cent in 1975. The proportion of graduate entrants, on the other hand, had grown over the same period from 4 per cent to 22 per cent.

Recently the trend has accelerated, and it is now very rare for reporters to enrol with a newspaper straight after O levels. In 1979-80 more than half of new trainees deployed their entry to the profession until the age of 18 or 19. Last year the proportion of graduate entrants rose to 37 per cent, with graduates accounting for as much as 75 per cent of entrants to the trade or periodical press.

Despite the pressure of graduate interest in journalism as a career, there are only two well-established university-run courses for graduates seeking entry to the profession. One, now in its tenth year, was founded at University College, Cardiff, by Tom (now Sir) Hopkinson, the distinguished editor of *Picture Post* between 1938 and 1952. The second course, at the City University in London, was modelled after it five years later.

Demand for both courses is enormous. Professor Ray Boston, director of the Cardiff course, receives 500 applications a year for just over 30 places on the one-year post-graduate diploma. Students are taught a form of shorthand, and take courses in the media and society, government and politics. The students also produce a "mock" newspaper, covering real local stories with two lecturers acting as news editor and chief sub-editor.

In spite of the success of both courses, their relationship with the universities in which they are based is a difficult one. At Cardiff the school of journalism has tried to boost the academic ethos of the department by publishing a research periodical, the *Journalism Studies Review*, and offering masters' degrees in journalism studies by thesis. Almost of the course however, sometimes complain that "irrelevant" tasks were foisted on them because of the department's anxiety about its academic status.

The plain fact is that many students on the courses at Cardiff and City are eager to acquire practical training as journalists. They want training which is less philistine and more analytical than on-the-job training in a provincial newsroom, but are bored with excessively academic approaches to their chosen vocation.

This inability to combine practical training in the craft of journalism with a curriculum sufficiently taxing to gain credibility in a university atmosphere could be what it five years lies behind. Britain's failure to reconcile higher education and the training of journalists. Meanwhile the London College of Printing and the Chelmer Institute are pushing ahead with plans for the first bachelor's degrees in journalism in this country. Whether the new courses will be able to resolve the tension between craft training and academic rigour remains to be seen.

Peter David

David Jobbins looks at Professor William Hale's latest contribution to the literature of ornithology

Wading through the lessons of the redshank

Wading birds hold a strong and peculiar fascination for bird-watchers. They pose the toughest identification problems for the newcomer to ornithology, and their prodigious migration flights, their massive winter flocks on the British coasts, add to their appeal.

A fundamental attraction is the way in which they become an integral and evocative feature of the lonely places they inhabit—the coastal and estuarine saltmarshes and mudflats in winter and the high moorlands in spring and summer.

It is odd then, that no definitive book on waders has been published in Europe since 1887—although a number of monographs on individual species have appeared.

This glaring omission has now been rectified with the publication of the latest book in the authoritative Collins New Naturalist series.

The author, taking his place alongside such major writers as Sir Dudley Stamp, Dr Max Walters, and Eric Simms, is the head of Liverpool Polytechnic's department of biology, Professor William Hale.

The book sprang from his near-lifelong interest in one of Britain's most familiar waders, the redshank. He approached Collins with the suggestion of a single-species monograph, but they suggested he expanded it to cover the plovers, godwits and other waders found in such vast numbers on the Lancashire and Cheshire estuaries in winter.

His fascination began when he failed to find the bird he had been watching as long as he could remember in a handbook recommended to him by a schoolteacher. It was not until he was seven and identified the redshank from an illustration of its eggs in another book that he learned its name.

"I remember watching birds before almost anything else. I would wander miles from home in the foothills of the Pennines. My most vivid recollection is my first curlew's nest, spending a day in a gorse bush waiting for the bird to return."

There were further forays to the Ribble estuary and the marshes at Leighton Moss, now a reserve managed by the Royal Society for the Protection of Birds.

But the redshank remained a major interest. It was a preoccupation even when he studied invertebrates at Durham University and carried out research into soil fauna.

This research led to a continuing interest in the feeding ecology of the redshank; but Professor Hale has pursued a number of other lines of inquiry to try to shed more light on the bird the RSPB marshland wildfowlers called the "sentinel of the marshes" because of its strident alarm note at the slightest hint of disturbance.

By careful examination of various plumage and structural features of more than 600 museum specimens, he has made a careful revision of the bird's taxonomy, incidentally demoting the redshank found in Britain from the status of a subspecies to a hybrid form of the European birds.

One great barrier to establishing where members of the breeding colonies spend the winter is the scarcity of ringing schemes outside Europe.

Professor Hale has developed a method of determining wintering areas by using a computer to compare standard measurements from breeding populations with those of wintering birds. A reasonably meaningful agreement was found when this computer analogue was compared with actual ringing recoveries; Professor Hale believes that although it is not possible to allocate individual birds, the wintering ranges of populations can be mapped using the technique and that it could turn out to be more accurate than using ringing recoveries.

His studies of the massive winter flocks of waders on the estuaries have revealed new roosting behaviour attributable to human disturbance. "On the tips where the birds formerly spent high tides on the rocky shore, they now spend high tide on the wing.

"This disturbance is mainly people taking dogs for a walk—and bird watchers. In some areas bird watchers can be a menace. While most are responsible the others are a nuisance. The worst are, so-called twitchers hunting rarities."

A pair of rare night herons in the Mersey area were recently hounded by hundreds of people trying to catch a glimpse and add them to their life list.

"This is just as bad as collecting birds' eggs", something Professor Hale admits he did as a youngster before the practice became illegal under the 1954 Protection of Birds Act.

The redshank: an object of life-long interest.

Professor Hale takes great pride in his department's research commitment—coupled with many university degrees.

Each year some 150 degrees across the binary line system, grants from the National Environmental Research Council have, one in three succeed. "Three before last we got two. Only two university departments got one is entirely because we have the people in the department."

Currently nine research students are working on projects which aspects of wader behaviour, include studies of communal roosting, feeding, geographical variation and population dynamics.

An interdisciplinary project, pursued by one research student, deals with the literature of phenology under including the waders, the Charadriiformes.

A vice-chairman of the Lancashire Naturalists' Trust and a member of the Wildfowl Trust's scientific advisory committee, Professor Hale has been active in the successful fight to save the critically important Ribble estuary from housing development.

But he has strong and sometimes controversial views about conservation strategy. "There is a good assumption waders are in some difficulty, that our estuaries are no longer able to support more." But he believes this may not be the case, that the estuaries could support more and that the regulation of numbers occurs on the breeding grounds in the high Arctic.

"Conservation is a balance between man's needs and the protection of the environment. The overriding thing is to protect habitat."

Expressing reservations about the wisdom of protecting the lapwing pairs of rare species of wader, birds—for example, the last pair in South Wales—he said: "It is a good protecting two pairs of breeding birds; protect the habitat that are in—and if you want more pairs of that habitat. The Plovers are common enough to be disappearing because of the pressure on the beaches where they nest. We can bring them back by relieving that pressure, but I do not think we could bring back the kites."

Patricia Santinelli examines the results of four recent surveys on young people's attitudes to unemployment

Learning on the dole

"A pudding whose proof lay in the eating" were the apt words used only a couple of weeks ago by the director of a leading youth organization to describe Secretary of State for Employment, Mr Jim Prior's announcement of a major expansion of the Youth Opportunities Programme.

Judging by the latest proposals for introducing compulsory military training into an expanded YOP, one bite of this pudding may choke a number of supporters. It has already attracted the wrath of the leading lecturers' union which condemned to for discussing the further education element in the programme.

Should such a proposal go ahead it would make a mockery of the Government and Manpower Services Commission plan to develop YOP into a permanent alternative to education and training programme and cause irretrievable damage by removing a great deal of the support that has attracted.

But even more fundamentally it would not meet the aspirations of YOP participants or school-leavers likely to come on to the programme. Their number may well rise to around 600,000 in 1982.

Four reports published only last month gave the very clear indication that what young people wanted above all was permanent work and through this the recognition of adult status in our society.

Andrew Sawdon, one of the authors of a Youthaid report on the transition from school to work funded by the EEC, says that this message came out very clearly as a result of their study.

"Compulsory military training rather like staying on at school resulting as it would in prolonging adolescence would be bound to lead to a serious disruption of the programme," he said.

This is reiterated in three *Into Work* reports covering groups of unemployed youngsters on YOP in Cornwall, North Tyneside and South Lewisham. Their main conclusion was that young people accepted YOP because it offered the hope of a permanent job and because participants, as Work Experience in Employer Premises schemes they were treated as adults.

In most ways the four reports have reached similar conclusions but from a different standpoint. On the need to improve the careers service, the Youth Opportunities Programme and the fact that qualifications do not necessarily help in obtaining jobs.

Youthaid's research has not been confined as were the *Into Work* studies to young people on YOP and covered a longer period. It involved following 250 young people of both sexes from the age of 16 to 19 in Newcastle upon Tyne, Northumberland, and London to report on their experience in work, education and unemployment.

As far as YOP is concerned the report of this second part of the survey shows that there is conclusive evidence that vocational training should feature as a fundamental part of WEEP schemes and that they should be stringently monitored to ensure that it is not used as a substitute for ordinary jobs—an aspect likely to grow in an expanded YOP programme.

Andrew Sawdon says that in this respect their survey has shown the major part played by local labour conditions. Therefore YOP is to be a national programme of work, vocational education and training it will still have to link its schemes very closely to the needs and realities of the local labour market.

This is particularly highlighted by one of the report's conclusions which points out that unemployment is not a result of lack of qualifications but is very much a matter of where young people live.

"Therefore it is unwise to look at education as a cure for unemployment. Anyone concerned about unemployment should look to job creation rather than education. For the study shows that where you live is far more important than what examination passes you have", the report stresses.

Although young people in Berwick had higher attainments than Londoners, the spread of jobs carried out by them was narrower and the average skill status of these jobs was lower mainly because of the local economy.

The investigations show that those young people who went from school to college to obtain higher qualification did not achieve jobs with a markedly higher status than those who went from school to work.

Another point which emerged from the report is the continued marked segregation by sex that still exist both in terms of courses and jobs in spite of equal opportunities. The highest numbers in the sample who went on to college were female, but this did not raise expectations/aspirations per se but much more that day release opportunities are more common in male than female employment whose main option tends to be continuation of full time study.

The report says that these conclusions and others have profound implications for theories of occupational choice, regional and economic policy and careers education and guidance.

"Careers education of 16 to 19 should be concerned with factual information and help young people to familiarise themselves with opportunities available locally. For example it is arguable that since between 15 to 20 per cent of young people ended up in retail distribution, 20 per cent of such education should be concentrated in this area", the report points out.

The importance of careers education and the careers service is also highlighted in two of the *Into Work* reports on Cornwall and North Tyneside. The latter recommends that the careers service should be given the tools to do its job effectively from earlier vocational guidance in schools, through to a blending with the Employment Services Division.

Into Work was an independent project sponsored nationally by the British Youth Council and Youthaid being funded by the MSC between 1978-80 to report on the state of unemployed young people in the three mentioned areas and explore the extent to which YOP could meet their needs. Although each area had its own particular problems there were some general conclusions which could be applied to all three.

Overall young people were positive about their experiences on YOP in that they hoped it would increase their opportunities to obtain a job, being aware that no employment might be available. However, one of the authors of the reports pointed out that this may no longer be true as since the studies were completed there has been a rapid drop in the number of placements available in at least one of the areas surveyed.

He believed that as a result of the economic decline this deterioration would continue and pose major problems particularly in the light of an expanded YOP which could not be matched by increased opportunities outside.

Another aspect criticised by all young people in the three areas was the low level of allowance on YOP. These have not been raised to match the rate of inflation nor to match the programme's expansion. At a time of economic constraints it is thought that this may well strain family income since most young people interviewed still lived at home and received some degree of financial support from the family.

Some conclusions however are only applicable to particular areas. For example the study of Cornwall is a good example of a rural area where local training facilities and further education were inadequate so that young people seeking skills had little chance of upgrading their skills.

The North Tyneside study revealed yet another aspect in that it is the better qualified who go on YOP schemes, while those with few qualifications enter work preparation courses and tend to be the ones most dissatisfied with the situation.

As a result the report recommends that urgent action is needed to strengthen YOP in areas of high unemployment like the North East where participation on the programme is becoming the norm rather than the exception.

The problem faced by ethnic minorities is highlighted in the report on South London's particular the plight of unemployed black women who are disproportionately disadvantaged and unemployed. However YOP in this area has made some measure of success in enabling young black qualified people to obtain employment, although it is more or less limited to clerical work.

In fact many similar findings have already been pointed out by Professor Adan Little, of Oxford College, when giving evidence to the House of Lords Expenditure Select Committee's inquiry into the evaluation of YEC/Department of Education and Science projects on the transition from school to work.

He pointed out that social changes in youth employment patterns could not be expected as a result of educational intervention although individual young people could be helped in the transition from school to work.

"Education after all is concerned with the development of the individual person not just his ability to cope with a world in which the most pressing problem is the most committed activities of discontent that had been a clear phenomenon in the radical bohemia of the teens of the century, and in the massive expatriations of the 1920s, surfaced in new form in the "Beat generation" and a new avant-gardeism.

The 1960s saw the coming again of a radical cadre, though, by paradox, much of its neoclassical activity was also anti-intellectual activity—a distrust of reason and humanism, an attack on the academy as a breeding ground of false values, a ready, uncritical nihilism and fanaticism. In some ways these were, indeed, old American ideas, and we may track through American history a steady oscillation between two models of intellectual activity: the "liberal" model, where the intellectual figure, the thinker or the artist, is both critic of but participant in society, seeking to guide it toward right reason; the "radical" model, where the intellectual manifests his own fundamental dissent and alienation. In many ways this oscillation is familiar throughout western societies, yet it also has notably American constituents; one of the most notable being the way in which American intellectual life, particularly in recent years, seems to have become manifest as a complex form of fashion.

Thus the life of the mind in America has indeed had its classic periods, constituents—admirably analysed by many intellectual historians, including Parrington and Perry Miller, Richard Hofstadter and Christopher Lasch. But it has often following the rhythm of the decade, been marked by strong themes and devotions and then sudden apostacies. The Ellsbergs of Ages of post-Vietnam, the Reeves and Haydons of the post-Kennedy, the Deans and Haldemans of the Watergate, confessing the errors of their late years and their sincere commitment to the new present, are exemplary figures. They display almost a modern way of dealing with a history that will not yield a world in which the most pressing problem, the most committed activities, the most perfect marriages, can be as suddenly rescinded or contracted. A certain historical

The tense pre-occupation of 'ism' and 'wasm'

Of all the national forms of modern intellectual life, that of the United States has often seemed the most various, the most volatile, and the most difficult to characterize. This is partly because of its energy—there can be little doubt that many of the more potent ideas of the time either arise in or get sifted through the United States—but also because its centres and performers are not easy to locate. Indeed it has often been suggested that, because of the absence of sharp ideological division in American history, America has never really had an intelligentsia at all.

Thus the question "Who are the intellectuals?" has often sounded in American life; and perhaps at no time more so than in the 1950s when, whether there was an intelligentsia or not, there was marked evidence of a rising anti-intellectualism in American life. Senator McCarthy identified the intellectuals in government and universities as an ever-present danger, directing his fire at the heritage of the "Brain's Trust" that survived on from the New Deal era into the age of expanding universities, professorial consultancies, academics in government, scientists in national research programmes. Evidently in America the scientific cadre was growing space, the universities expanding massively, the arts acquiring international domination. Yet intellectual caution prevailed, few asserted radical postures, and it was not really until the shadow of McCarthy was lifted that the classic

In the first article in an occasional series on the intellectual topography of certain countries Malcolm Bradbury examines the America of Fitzgerald, Mailer, Trilling, and the 'New Conservatism' of the past decade

urgency, a sense of the power of a time and a mood, attends the matter; it has been a key part of an American life where historicism—the desire to tell by the clock of history what the time is, as Mannheim puts it—has been far more important than ideology.

One result is that American intellectual history often looks, more than most, a matter of decades; another is that it is often interpreted for us by exemplary figures who seem willing to dramatize and dunce the note of a generation, the style of a time. Scott Fitzgerald did this for the 1920s, publicly living out the decade both as life-style and art-style; then, in the 1930s, he looked back with benefit of the more radical postures of that Marxizing decade on what he had wrought. John Dos Passos danced the 1930s, and rescinded his radical loyalties by the 1950s, Norman Mailer performed the 1950s as an advertisement for himself, to be shared with his entire generation; by the 1960s everyone was doing it, engaging in what subsequently looks more like generational than ideological politics. In turn the 1970s depoliticised the whole revolt, directing the radicalism toward the psyche and personal life-style; now the 1980s are with us, their true temper and shape yet to be seen.

Clearly, crucial ideas and issues are formed by other forces than exemplary and celebrated individuals. Nonetheless there is appropriateness as well as convenience in analysing American intellectual life by looking at these figures and themselves more frankly as world historical individuals. Conveniently, we have a recent such offering from Norman Podhoretz, whose "political memoir" *Breaking Ranks* (1979) not only puts his own mental and social life of three decades grandly on record, but also suggests the uneasy tone underlying much of American intellectual experience.

One classic question is where we might find it; Podhoretz, on this score, had no doubts. In a previous memoir, *Making It*, he presented himself as the prototypical intellectual hustler, making the proto-typical journey. This was from Jewish poor life Brooklyn across the bridge into, again, largely Jewish affluent intellectual life Manhattan—with its cults of intellectual celebrity, its sense of participating in matters of culture and national politics, its issues and style. And here indeed were the cadres who had long been notably effective in making their conversations and living patterns, their tastes and art-forms, radiate from the Upper West Side and SoHo right across country; and here, indeed, Podhoretz made it, becoming editor of *Commentary*, that bright Manhattan Jewish upto-date journal, crossing with celebrities, intervening in causes, influencing political life.

There can be no doubt that Podhoretz did have the gift of mustering himself in the right place, fearing himself in the right time. Going to Columbia in 1946, he was active in the "new liberal" thought-movements of the 1950s; one of his teachers was the influential Lionel Trilling. With equal appropriateness, his main interest became literature, which, in the post-political mood of a generation rescinding its "innocent" 1930s alliances with Communism, became a dominant realm of intellectual expression. Thus, said Trilling in his deeply influential book of literary criticism, *The Liberal Imagination* (1950), "it is no longer possible to think of politics

except as the politics of culture . . . the modification of sentiments, which is to say the quality of human life". Trilling expressed a dominant 1950s tone, one which carried over the 1930s preoccupation with history and process into literature, yet which centralized, in a changed liberal compound, literature as a primary way of knowing—rich in moral complexity and what it was fashionable to call "the tragic sense life".

It was, also, notably a mood which brought intellectual figures in the United States and Britain very close together in a common neo-liberalism. Though the two nations were in quite different situations, with Britain committing herself to the Welfare State, losing her imperial role and much of her fundamental economic base, and taking on a new and dangerous Little Englandism, the United States was now becoming one of the two major superpowers and the world's leading affluent economy. Also, partly thanks to the massive intellectual migrations from Europe and Nezism in the late 1930s, it was acquiring a superpower role in the intellectual and artistic scene. Again there was a central Jewish input, from writers like Saul Bellow, Bernard Malamud, Philip Roth, Irving Howe, Philip Rahv, who seem to express at large western historical anxieties and point at the same time to new possibilities for the arts and ideas. But the Anglo-American link was notably close at this time; Podhoretz appropriately pursued it by moving to Cambridge to study with F. R. Leavis, whose rigorous and localised puritanism in fact could merge very aptly with Trilling's metropolitanized liberalism. Hence, much as today the new intellectual toughie might need to go find learn some deconstructionist lore in the Rue des Ecoles, Podhoretz went to learn his critical acerbity on the banks of the Cam. He then returned to contribute to the American journals many sharp critical articles, especially on the post-Holocaust literature of his Jewish contemporaries.

But throughout the 1950s, during the "age of equilibrium", the mood of dissent was rising, in the "Beat generation" and periodicals like, exactly, *Dissent*. Podhoretz would have us believe that he was first begetter of the new radical spirit, and that it was he who "laboured to create" it. What in fact he did was to seize the day by turning *Commentary*, which he now edited, over to writers like Herbert Marcuse, Norman O. Brown and Staughton Lynd, which put the radical issues into the centre of, at least, Manhattan debate. Podhoretz has no doubts about seeing a small-ish Jewish New York magazine as an instrument for transforming a generation and shaping new government attitudes, just has he has none about seeing the turnings of his own mind as general shifts in human history. But in a sense he caught the mood on the campuses, in the Civil Rights campaigns, and in the general radical-revisionist challenge played by the 1960s over the compromises of the 1950s. The radical intellectual was back, and the liberal intellectual neutral cold war was replaced by hot love, studied conformity by studied nonconformity, the desire to be thought over 30 by the desire to be thought under it.

It gradually became Podhoretz's protest that the new radicalism, which he termed the Movement, was now an establishment. It does not seem to occur clearly to him that his magazine was exactly the establishment it had become—that, in a sense, he was the establisher. But the mood was radical: he and Christopher Lasch, in a notable book *The Culture of Narcissism*, rightly notes a drifting apart of psychic radicalism from external historical referents. In the academy, this was the great season of structuralism, the sychronic set against the diachronic. The main radical tendency, women's liberation, the voice of a minority" who were to be heard, the American majority, produced its consciousness-raising texts; for all the virtue they may have, they are never likely to look as substantial as what went before. *Fear of Flying* is no match for *Herzog*; *The Women's Room* can hardly make it with *Gravity's Rainbow*. To this exterior observer, a regular visitor to the States, the dominant mood now seems one of an uneasy quietude, the prevailing tone one of an after-time, when many of the more vital movements that have been developing and amassing in the 1970s and structuralism and Postmodernism have certainly been that, even if their origins and roots lie much earlier —are themselves tiring. The talk is of Post-Structuralism and Post-Postmodernism; the isms, as they say, are becoming wasms. Yet it is all largely ubeen as we enter the 1980s, the gloom is there in the very texture of American intellectual life. However, no doubt someone else, soon, will be breaking ranks.

One can see *Breaking Ranks* as a notably opportunist book; still, it is also a convenient record to the turnings and moods, the generational switches and political oscillations, of modern American intellectual culture. It offers, certainly, the standpoint of the intellectual entrepreneur; but a certain engaged entrepreneurship, a gift for hustling in the world of ideas, is one way of performing in American intellectual life. The pilot of Podhoretz's story is one of creative "deradicalization", and on the whole that does seem to have been much the path of recent American life, as one follows the markers in the decades of the postwar world. It might also be noted that this deradicalization seems to have had its artistic and intellectual price. The "new liberalism" of the 1950s had, indeed, its conservative streak, sometimes implicit and sometimes explicit, as in the work of Peter Viereck. Yet such was its tense balance that it generated a notable intellectual and artistic activity. It was cosmopolitan and hospitable; European artists and art-movements became involved; the young American writers seemed to write on the cutting edge of contemporary disturbed history, and to write an art of modern tension. Painting was vital, with a rapid expenditure of new movements; the 1950s was indeed the time when American ideas, writings, art-forms acquired a world force, strengthened by, but not solely based on, American power.

The 1960s, too, displayed enormous intellectual and artistic energy. The *avant garde* was vitalized by the spectacle of universal avant gardeism, bohemians on every street corner. The arts merged with one another, painting with theatre, music with poetry; it was an age of the inter-arts, of happenings and street theatre. Again major artistic figures emerged, in the black humour movement of Heller, Vonnegut and Pynchon, and in those complex, reflective, performance-oriented works of fiction, poetry, theatre and music we have come to call "Postmodernism." There were those ready to urge that this representative major artistic efficacy of the late 20th century, the articulation of the art-form of the age. Even more than in the 1950s, New York and San Francisco became a key clearing house for modern movements of all kinds, including the movements of popular culture that were realizing themselves by taking up *semi-avant-garde* postures, as in popular music—an art-college affair if it was anything, calling up large-scale populist constituencies into the spirit of youth radicalism.

By the 1970s something of this domination began to fade, and the new conservatism might well have played its part. Postmodernism grew vastly more political, and Christopher Lasch, in a notable book *The Culture of Narcissism*, rightly notes a drifting apart of psychic radicalism from external historical referents. In the academy, this was the great season of structuralism, the sychronic set against the diachronic. The main radical tendency, women's liberation, the voice of a minority" who were to be heard, the American majority, produced its consciousness-raising texts; for all the virtue they may have, they are never likely to look as substantial as what went before. *Fear of Flying* is no match for *Herzog*; *The Women's Room* can hardly make it with *Gravity's Rainbow*. To this exterior observer, a regular visitor to the States, the dominant mood now seems one of an uneasy quietude, the prevailing tone one of an after-time, when many of the more vital movements that have been developing and amassing in the 1970s and structuralism and Postmodernism have certainly been that, even if their origins and roots lie much earlier —are themselves tiring. The talk is of Post-Structuralism and Post-Postmodernism; the isms, as they say, are becoming wasms. Yet it is all largely ubeen as we enter the 1980s, the gloom is there in the very texture of American intellectual life. However, no doubt someone else, soon, will be breaking ranks.

The author is professor of American studies at the University of East Anglia.

David Knight picks his way carefully through the verbal jungle of man's classification of animals

A Pica Brasiliensis Toucan, by any other name!

What is the use, as the gnat asked Alice, of insects having names if they don't answer to them? Other eminent Victorians criticized museum or closet naturalists engaged in the naming and classifying of creatures, suggesting that they did not know that the animals in their charge had not always been stuffed with straw, and that their work consisted in arranging bird-skins in patterns on the parlour floor.

In our century, to Rutherford, science is supposed to have been either physics or stamp-collecting. Taxonomy thus seemed a kind of childish or adolescent stage of science, an awkward age which had perhaps to be got through in the progress towards maturity—which for sciences meant the dominance of explanatory models and mathematics.

Sciences still in the "natural history stage" had only just begun, and might be treated with indulgence or mockery like a little sister. Intellectual interest and exacting discipline was to be found elsewhere; and even in natural history, Darwin and Mendel had provided the model and the mathematics which might make it really scientific.

Taxonomy might seem like long division, a tedious business now fortunately rendered obsolete: and yet physicists working on fundamental particles have had to classify, and evolutionary histories depend on classifications because animals and plants do not carry their family trees with them. Contrary to expectations, classification remains a fundamental preoccupation of mankind.

Anthropologists remind us that man is a classifying animal, and lead us to hope that classifications may or must mirror the structure of society. Borderlines are dangerous places, and those we cross at birth, puberty, marriage and death must be guarded by ritual. Anomalous creatures, like the armadillo in the *Just-so Story* are to be avoided; as the pig, with its cloven hoof but failure to chew the cud, is rejected by Jews and Moslems anxious to maintain their distinctness and purity.

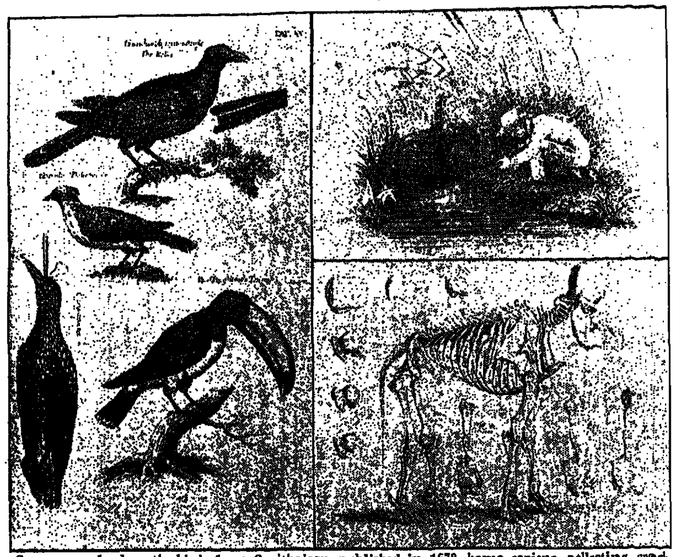
In imposing or finding order in the booming buzzing confusion of life, we seek for classes as fixed as possible—a place for everything, and everything in its place—despite much experience of disorder and flux. Life itself is after all lived in defiance of the second law of thermodynamics: until death catches up with them, organisms arrange matter into ordered structures as they grow and maintain themselves; and so it is in the realm of ideas, too.

If things could not be grouped, any general words applied to the groups, then language and communication would cease to be possible. But one may well ask what there is behind the groupings. Wittgenstein drew attention to the way we describe as "games" activities like chess, football, solitaire, and snakes-and-ladders which seem to have nothing in common.

There is no reason to suppose that members of a class must have a common property. The class of prime numbers do: they are all indivisible by a smaller whole number; but numbers are not things, and in the real world the boundaries of groups are generally less clear-cut. Members resemble each other as cousins do, looking alike not because they all have one feature in common but because they all display a number of different characteristics from a long list of those appropriate to the family.

Classifications thus have an element of the conventional about them: raising are classified differently by the Navajos and the English. One might nevertheless hope for a scientific system in which the families of animals and vegetables and minerals might be found out and displayed; and indeed from the 16th century just as astronomers sought for the true theory of the universe so naturalists sought for the true system of nature. Pandemonic confusion or Aristotelian looked for real classes.

Whereas astronomers were breaking away from Aristotle, naturalists were returning to him, following the Organon as set in his own logical works. There he rectified Plato's definition of man as the featherless biped because it failed to put man where he really belongs, with quadrupeds and dolphins which bring forth their young alive and suckle them.



Some very dead exotic birds from Ornithology, published in 1678, homo sapiens collecting specimens from the History of Insects, 1841, and an elephant skeleton from Ossemens fossiles, 1821-40.

Giving reproduction the most weight, Aristotle used a range of characters in determining classes. He distinguished homologies, where organs similar in structure may play different roles, from analogies, where similar functions are performed by different organs; examples might be human feet and seals' flippers on the one hand, and the wings of birds and of bees on the other.

Homologies indicate nearness; although Aristotle and his successors down to the middle of the nineteenth century used terms like "genus", "family", and "affinity", they did not mean that all animals were really kindred, any more than the universal kingdom was believed to have a king; these terms were metaphors, only taken in their literal sense by Darwin and his followers after 1859.

Country gentlemen, apothecaries and ships-surgeons should ideally be able to classify things, in addition to men of genius and educated judgment like Ray. This means that one wants something more mechanical than the connoisseurship, learnt by working with an expert, which was a feature of the natural systems of the early eighteenth century: something was required less like learning to ride a bicycle, and more like learning arithmetical tables.

Tables were indeed what Linnaeus supplied from 1735, making himself in many ways the leading man of science of the century, and botany his leading science. Plants in his system were put in classes on the basis of the number of male and female parts in the flower. This often split groups that to the trained eye were natural; but the artificial system was so convenient, and Linnaeus' names and descriptions so telegram-like in efficient for information-retrieval, that it speedily caught on everywhere except in France.

At first, the system really was set out in big tables that could be pinned on the wall; but in later editions it became a fat book as more and more species were described and specimens sent to Linnaeus by travellers. Like Liebig in chemistry a century later, Linnaeus trained students in his methods—in his case, classifying cut and dried plants published their work and got them jobs, thus bringing professionalism early into science.

One of them, Solander, botanized at Botany Bay with Cook and Sir Joseph Banks on the great first voyage of the early nineteenth century. They across established divisions; were elements, but on the bound between metals and non while others were compounds.

Given standards of purity then current, it was ble to get consistent resu only marginal men agree which were believed simplest state of matter, Faraday; J. J. Thom other eminent people were a much more promisi It was not until the 1 theory to divide them spirits realized that sulfide c come simpler than gases formed a natural group could replace the divide of early radios.

Darwin explained the system of animals and Rutherford with his pla explained the Periodic Tab yet the new theory made difference to the correct in the great museums or Darwin. The behaviour of an or an element can only be predicted from its ex history or its electronic c tion; indeed, these things have to be worked out fro using the classification o animal or element.

Naming is now governed international conventions, of priority drawn up first and from then on the 18th century, ally, thus ridding principle at least, from of synonyms. It might the system has thus become free, a mass of assumptions upon which Darwin or ford can base a theory.

But any classification inv conceptions, judgments and ings; even if the decision to weight all characters equ all branches of science, is a matter of interpretation, by conventions representing tured experience.

We can never know if we reached the natural system ing nineteenth-century th world only of the natural We could perhaps tell th many about using names of and that the history of ... and classifying of fossils illes is more amusing than be expected, and ... light on mankind.

The author is a senior lecturer in philosophy at Durham University. His book, Ordering The World: A History of Classifying Man, *is published in April by Burnett Books in association with André Deutsch, price £7.95.*

intellectual artifacts such sciences; and this became favourite game among philoso and men of science during the century as the boundaries bet sciences became fixed in some like their present positions.

In the 1830s the term "scie was coined to describe the g cising chemistry, botany, and so on; who had previously grouped as "philosophers", those engaged in logic, ethi metaphysics. In France, Gr and Britain, Ampère, Dr Whewell tried linear classifi of sciences, showing perhaps sophistication than those us in natural history.

Certain sciences do seem to naturally near each other, be one takes more characters t account they cluster into bun rather than falling on a stra line; and neither science sciences seem to have any alone. In the early 19th century, chemistry was taken over by chemists, as Faraday was down to his profession about 1860 regarded as a chemist. By then, with the coming of the idea of energy, a number of previously-separate disciplines had been grouped into the science of physics. Similarly, at the beginning of the century Lamarck and Lyell had separated biology from natural history, leaving geology as its re

It is a commonplace that scientific discoveries have often been made on borderlines, as with fossils at the end of the nineteenth century. Such borderlines are dangerous places as exciting, as the history of conductors shows. These working materials were known as studying electrical science from the nineteenth century. They

Planets are mineral with animal and vegetable connexions, and Galileo, in the *Dialogue* of 1632 that brought the Inquisition upon him, presented arguments for reclassifying the Earth rather than recondite mathematical analyses of planetary motions on the lines of Copernicus and Newton. This was why his book was generally understood and therefore alarming. He urged the resemblances between the Earth, the Moon, and planets such as Jupiter and Venus, which all shone by reflected light and were therefore very different from the Sun, which should no longer be called a planet but a star. Furthermore, he argued, the Earth was a planet, then like the other members of its class it could be expected to move (as the very term implies); and one of Gresham's English admirers, John Wilkins, wrote in 1640, a popular astronomical work on the discovery of a new planet—the Earth.

As the moving spirit behind the Royal Society, Wilkins was a patron of John Ray, who became the greatest scientific taxonomist of the late 17th century. In grouping plants and animals, Ray relied upon multiple criteria—these led him, for example, to put the terms of the swallows among the sea gulls rather than the swallows' nesting habits, their superficial subtleties.

Unlike modern naturalists, he continued to put the swift in the same group as the swallow, aiming at natural groups involves judgment, and giving different weight to different characters. Ray liked some old groups, though not convinced that they were natural, for convenience, for a system has to be workable.

Meanwhile, A. L. de Jussieu had made the year 1789 memorable to the French by publishing his *Genera Plantarum*, containing a workable natural system which is the direct ancestor of those used since: by about 1830 even the English had come to fall in with it. Its greater complexity was no longer such a barrier, for there were more opportunities for training, and great public collections in museums for comparisons.

Debates began between the "splitters" and kept dividing classes and the "lumpers" who united them—an activity partly dependent on fashions and even nationalisms, and partly on the size of the collections available. American gold naturally tended to be splitters, dividing creatures from European groups with which after all they did not interbreed; while museum men tended to be lumpers, emphasizing morphology rather than ecology.

The success of Linnaeus put descriptive science alongside Newtonian as an ideal; and Lavoisier's vision of chemistry, in which the imponderable material ideas were excluded as metaphysical speculation in favour of a table of simple substances or elements, set the tone for much of the century after 1789, when he too published his great textbook.

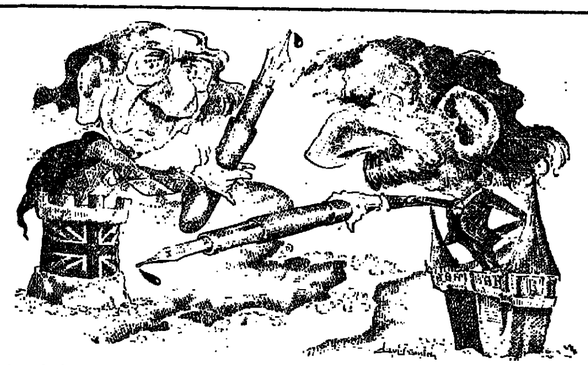
Thus, the Chemical Society of London, founded in 1841 and the first such body, excluded from its *Journal* papers of a purely theoretical kind and some chemical theories, favouring types or radicals, are better seen as mnemonics than as explanatory. The great triumph of this chemistry was *Mendeleev's Periodic Table* of 1869, in which he classified elements in a two-dimensional array involving numbers and properties, rather as Linnaeus had classified plants. There were far more plants, enough to fill all the squares in the table; but some naturalists, especially those looking for a pattern like a chain or an arrangement of circles, found gaps where there must be missing links.

Mendeleev, similarly, left gaps, and predicted the properties of the elements which would be found to fill them; and some of his predictions were fulfilled with startling accuracy, providing confidence in the truth of his classification. Various other chemists carried on researches into the periodic properties of the elements, or figures of eight, to bring out relationships.

So here, too, to classify or relate things is to explain, to understand, and rather to classify is

Alan Montefiore looks at the nature of contemporary philosophy in the French-speaking world

Catching the continental drift



What is the nature of philosophy in the French-speaking world of today? How did it get to be like whatever it is in fact like? How do its institutions compare to those with which the Anglo-Saxons are familiar?

One thing at least is well-known and obvious to any philosophical traveller: the world of French philosophy is very unlike that of its Anglo-Saxon counterpart. It is true that in France there is much more interest in analytic philosophy today than there was even only a very few years ago; but the change has not as yet gone either very far or very deep. Still, in a case such as this even a small change may be reckoned to be a very big one. Wittgenstein can be read in French and his distinguished French exegete and commentator, Jacques Bouveresse, is no longer the isolated and unrecognized figure that he was for too long. Frege, his successors and their problems can be read and discussed. Ryle, Austin and Strawson, Popper Quine and Feyerabend are among those whose books have been translated. Special numbers of journals and reviews have been devoted to analytic or Anglo-Saxon philosophy, and publishers have thought it worthwhile to publish in translation collections of key articles drawn from the mainstream of analytic debate, the most notable anthology *De Vienne à Cambridge* presented by Pierre Jacob, whose history of recent developments *L'empirisme logique, ses antécédents, ses critiques* is also currently on display in many leading bookshops.

Nevertheless, if it is no longer the case that the exotic is neither on display nor even an object of respectable study, it remains for most purposes exotic. In giving it warm welcome to the recent double number of *Critique* (August/September 1980) devoted to "Les philosophes anglo-saxons par eux-mêmes" (original contributions to which include among others, pieces by Ayer, Austin, Putnam, Strawson and Bernard Williams and more than 5,000 copies of which have, it appears, already been sold), Christian Delacompagne in *Monde* (October 3), noted that far from constituting a block analytic philosophy is divided into as many currents as French philosophy itself.

Without doubt... Anglo-Saxon philosophy still astonishes us by its indifference to themes which to our eyes appear fundamental: on the one hand, history and social and political concerns; on the other hand, introspection and the world of the "imagination." To which he added that "nobody is to blame for this... all one can do is to note, quite simply, the divergences which continue to separate continental philosophers from those of Great Britain or America in the ways in which they conceive their occupation."

Delacompagne certainly puts his finger on some of the most notable divergences. Moreover, it is true, of course, that French philosophers pay much more attention to political philosophy or to the history of history or even to the history of philosophy than do their British or American colleagues. Also, so far as the first two are concerned at any rate, it is very doubtful whether they do. It is true that while relation to history such is different, the history of philosophy and, for many of them at least, the history of French philosophy is more amusing than it may be expected, and indeed to throw light on mankind.

But what is the nature of this difference? Is it, as Delacompagne suggests, a matter of the presence or absence of a sense of history? Is it, as Bouveresse has suggested, a matter of the presence or absence of a sense of the importance of the social and political dimension of their own activity as philosophers? Is it a matter of necessity rather than of contingent consequence are bound to see themselves as engaged by virtue of their philosophizing in an also political activity. They may therefore be expected to conduct themselves in the light of that awareness and to seek to give explicit expression to the political positions which they may see themselves as occupying. The happiness or unhappiness of philosophical discourse, as Austin might have put it, may be seen to depend not on its truth or validity alone or, if one takes the concepts in another direction, the truth or validity of philosophical discourse may be seen as depending on a more complicated range of factors than has been traditionally supposed.

Similar considerations may be seen as lying behind the apparently very literary nature of much recent French philosophy. The production of philosophy involves the performance of speech acts, whether written or spoken. The philosophers of speech act theory within the analytic tradition, while evidently aware that in setting out their arguments and their theories they will be doing a great many things over and above the production of accurate or inaccurate analytic, valid or invalid arguments and true or false assertions, do not by and large seek to guide or to formulate their writings in terms of that awareness.

Not all but certainly some very important contemporary French philosophers, on the other hand, do try to make of the style and structure of their texts not merely a means to the more effective or agreeable assimilation of its message, but rather an integral part of the message itself; to the point at which, to borrow again an earlier phrase, it no longer be regarded as permissible to speak of a message as distinct from the overall impact of the text at all.

Theory and practice of this sort cannot make for easily accessible writing. Since what can be foreseen of the literary effect of speech is limited to the readership of which its author or producer has some experience, they will inevitably tend towards writing of restricted rather than universal appeal. Nevertheless, it is important for the visiting analytic philosopher to realize that behind the apparently non-philosophical aspect of many of these texts also lies reasoning which, whether mistaken or not, may more readily be acknowledged as being of a recognizably philosophical nature.

It goes without saying that to reach any even approximately full understanding of the nature and origins of the historical, political, literary aspects of much contemporary French philosophy, one would need to take a great variety of other factors into account and to recognize that within its diversity there exists much of real importance to which the main themes laid down in the official programmes of secondary education in philosophy and "*les sciences humaines*", a book published only this year, edited by Christian Delacompagne and Robert Maggiori.

They are worth looking at, for together they give a very good first idea of what is going on. This in turn is worth having. Not only a first idea, indeed, but, hopefully, something more. For British and French, Anglo-Saxon and continental philosophers have surely much to learn from and to give to each other, if only they can get over their first cautions of indifference or astonishment.

The author is a fellow of Balliol College, Oxford.

stituted always by its relationship to its own traditions.

It goes without saying that even among those who accept some such argument or set of presuppositions, there may be major disagreements over the ways in which history is to be approached or understood. Also there remain other things to be said on other, for example, more analytic sides of the question. Some of these things are said with admirable clarity by Hidé Ishiguro in her contribution to the above-mentioned number of *Critique*.

One would also in all consistency, no doubt, have to try and take consistent account of the historical antecedents and conditioning of the argument itself. But however this may be, and whether one accepts it or not, at least it may be acknowledged as constituting a perspective that does not in itself have to be regarded as either foolish or wilfully obscurantist, however obscurantist or foolish the uses to which it may sometimes be put.

If my own self-understanding has to include, as part of itself, an understanding of my historical situation, and if my historical situation is in important part determined by its social and political structure, then necessarily to understand and to situate myself is among other things to understand and to situate myself politically. If this is so, one's overall philosophical discourse must seek to include an expression of that self-understanding, it has of necessity to understand itself as contributing to the further structuring or development of its own social or political situation.

Indeed, that this must be so must be readily intelligible to anyone familiar with speech act theory as elaborated within the analytic tradition. That in performing any act of speech or of discourse one may be doing a whole number of different things at the same time is by now a recognized commonplace. Speech act theory is concerned with the conditions, conventional or contingently imposed, determining the range of acts associated with any speech performance. It may or may not be mistaken, but there is in principle nothing outlandish about the contention that all speech acts in certain contexts or certain kinds of speech in all contexts, or certain kinds of act in certain contexts, will have a political dimension. It is at least intelligibly arguable that acts of philosophical production are characteristically of such a sort.

This consideration leads on to another that may be closely associated with it. It would seem to be beyond a peed of argument that it should be part of the philosophical enterprise to seek as full an awareness as possible of all that one may be doing by virtue of pursuing that enterprise. It would no doubt be not quite so indisputable that the philosopher is bound, by the very nature of his enterprise, to seek so to guide it in the all round light of that awareness as to bring all that he does in its pursuit as far as possible within his conscious control. Some, for example, would maintain that while I should no doubt be *aware* of as many of the implications of my philosophical acts as possible, I should not for that reason feel bound to take all of them into account when deciding what or what not to say.

Others would argue, very differently, that the very nature of language is such as to render impossible in principle full conscious control of the implications of one's own discourse, so that the most that one can aim at is to be fruitful as far as possible of its elements of random-ness or unpredictability.

Philosophers for whom the social and political dimension of their own activity as philosophers is a matter of necessity rather than of contingent consequence are bound to see themselves as engaged by virtue of their philosophizing in an also political activity. They may therefore be expected to conduct themselves in the light of that awareness and to seek to give explicit expression to the political positions which they may see themselves as occupying. The happiness or unhappiness of philosophical discourse, as Austin might have put it, may be seen to depend not on its truth or validity alone or, if one takes the concepts in another direction, the truth or validity of philosophical discourse may be seen as depending on a more complicated range of factors than has been traditionally supposed.

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The author is a fellow of Balliol College, Oxford.

Peter Knight looks at changes in l.e.a. course funding

Diverse difficulties in surfacing from the pool

The Advanced Further Education (AFE) Pool is simple to understand. At least it is easy to understand the intent that it was designed to achieve; it is almost impossible to appreciate the complex technicalities that have made it capricious and uncontrolled in its operation ever since it was capped.

Historically, the AFE Pool was created more by a process of evolution than by conscious design. In the postwar years a number of advanced level courses were started in local technical colleges. Initially these courses were undoubtedly intended to meet local needs, but inevitably the general character of higher education pervaded them and an increasing proportion of the students came from outside the area of the authority that maintained the college.

As higher education is an expensive commodity, an authority responsible for a college with advanced work would wish to recover some of the cost of educating a non-local student from that student's authority. After a series of ad hoc arrangements for direct recoupment and fixed percentage claims the pooling system was introduced in 1958. In this system every local education authority in the country contributes money to a pool. Those authorities that have a responsibility for running advanced courses then claim the cost of those courses from that pool. Nothing could be simpler and the system operated with only minor changes for over 20 years.

Within this beguiling simplicity are hidden three facts of political significance. Firstly, the volume of AFE money was regarded as primarily a matter for the authorities. Certainly, the Government had an influence and it could have exercised direct control, if ever it wished to, through the course approval system but at the end of the day AFE was a local authority service and the amount of money in the pool was a matter for them, not national Government. Secondly, institutions and colleges are not funded from the pool, only courses are financed. Now when pool figures are published there is an understandable interest in the impact on authorities with large colleges, particularly the polytechnics. However, nearly every l.e.a. withdraws money from the pool, only six English authorities (Hillingdon, Redbridge, Sutton, Waltham Forest, Knowsley and Bury) make no claim.

Thirdly, attractive although the system of pooling was it could be criticized on the grounds that there was no disincentive to an individual authority to prevent it from recklessly expanding its advanced work and making every other authority in the country pay for it. So many authorities became apprehensive, particularly in the early 1970s when the polytechnics were expanding, as their pool contributions rose by leaps and bounds.

It was the third point about the lack of electoral accountability in the pooling mechanism that was studied by the Oakes Committee and when the Labour Government fell in 1970 it was happy for the incoming Conservative Government to take statutory power to predetermine the size of the pool.

The pool was limited in size for the first time for the 1980/81 financial year. It is absolutely essential to understanding what happened in that year, and in appreciating what is going to follow in 1981-82, to realise that a capped pool is fundamentally different from the predecessor upon which the rules have changed and changed so suddenly that one suspects that many local authorities have still not realised the implications of the new system.

A change that came in for 1980-81 was the removal of the process called "rolling readjustment". Prior to capping, an authority's claim on the pool had been calculated in a complex but gentlemanly manner over the six months before the start of the financial year to which the claim related each authority would submit an estimate of its pool claim. It would then receive that sum of money equal to its estimate, plus the 'year' progressed and its estimate turned into expenditure the accuracy of that estimate would be checked and the amount of pooled money that it had received adjusted. This process would be repeated several times, over a period of years, until the actual accurate claim was known.

The significant feature of this procedure was that it did not matter greatly if an error occurred in estimating the initial claim, all would be made right in the end. An authority that overclaimed would have a temporary cash flow advantage, an underclaimer would be at a temporary cash flow disadvantage. The cumulative effect of this mechanism of readjustment and the fact that the estimate had to be submitted rather early in the budgeting process meant that on average authorities overclaimed by 9 per cent when compared with eventual levels of expenditure.

In 1980-81, rolling readjustment was removed from the procedure and the pool was capped at about 9 per cent below the total claims to compensate for the overclaiming. In an ideal world this might have worked but the world of local government finance has long been far from ideal. While authorities collectively may have historically overclaimed by 9 per cent, that average marked a wide range of practice in individual l.e.a.s. Some may have traditionally claimed well in excess of 9 per cent, others may have prided themselves on getting their claim right first time, to minimise the readjustments. The net effect of a 9 per cent reduction and the end of rolling readjustment was that the overestimators did well and potentially gained a cash, rather than a cash flow advantage, while the accurate estimators were penalised and suffered an actual cash loss.

A self-evident feature of this allocation process was that three months before the start of the financial year some authorities received substantially less money to run their colleges than they had asked for. Now for an authority to find itself short of money is not exactly news. The real problem that became apparent was that many of the larger colleges, particularly the polytechnics happened to be supported by metropolitan authorities whose rate base was comparatively small.

[redacted]

The text book example was North-East London Polytechnic maintained, primarily, by Barking. The difference between that authority's claim and its allocation was just under £2m on a total budget for the polytechnic of over £15m. Yet the ability of the authority to raise money from the rates to cover that shortfall can be measured by the fact that a penny rate would yield only £250,000. The shortfall corresponded to nearly a seven penny rate. This situation can be contrasted with that of Avon, the maintaining authority for Bristol Polytechnic, where the difference between claim and allocation in 1980-81 was just over £1.1m. The product of a penny rate in that authority was almost identical at £1.1m. For crudely, there was a factor of four difference in terms of rate impact between two authorities supporting comparable institutions. It was a nonsense that a national education provision should be determined by an accident of fate such as the rate poundage of the maintaining authority.

A new system of allocating the pool was designed to overcome these problems, and to operate in parallel while a more sophisticated method based on cost units is being investigated. The new system was designed by a working group at the DES, chaired by Mr. Stephen Jones. As a member of that group, I am clear in my mind that given the constraints of the political decision to cap the pool, the new system was the best that could be devised in the circumstances. The question to be faced now is whether other larger issues such as the size of the pool and the operation of the block grant will override the intentions of the 1981-82 system.

The new system contains three components, rolling readjustment, mitigation and a unit cost limit on claims. The interaction between these three factors is a work of art.

The concept of rolling readjustment has already been explained and it is clearly a vital component of any system simply because authorities are not able to estimate accurately enough in advance. But consider the position of an authority with an institution to maintain and a shortfall between its pool allocation and the money needed to maintain the college. The simplest choice is to make up some or all of the deficit from the rates or to let the college survive, if it can, on the pool money. If rate money is spent in support of AFE this fact will be picked up at successive stages of the rolling readjustment and so will increase that authority's legitimate claim on the pool. Now, if every authority made up its deficit, then nobody gains as the pool is capped, but if some subsidies contribute and others do not, then those authorities who contribute will increase their share of the pool on readjustment while the others will lose. The size of this feature is impossible to estimate as it is dependent on the cumulative effect of decisions still to be taken by individual authorities. It is sufficient to note that there is still a possibility of additional support for assisting a local college, with rate raised money.

A more complex problem arises out of the process called mitigation. As is so often the case with such problems the limit of mitigation is exceedingly simple. It is that the maximum loss that an authority incurs on the pool should not exceed, say, the equivalent of a one penny rate. This was designed to protect the authorities like Barking, Kingston, Kirklees, where large colleges are maintained by small rate bases.

Mitigation was to operate on the net result of two transactions. The first transaction is that every authority contributes to the pool, [illegible] £240 million and if the pool had not been capped authorities would have had to contribute sufficient to equal this amount. However, the pool was capped at just over £230 million so each authority has to contribute 15 per cent less than they would have paid in the absence of capping. So every authority can be regarded as having made a "saving" on its pool contribution of 15 per cent.

On face value, such a saving can vary widely. For Barking it would amount to about £230,000, while at the other extreme the ILEA would save nearly £7m. Set against such a saving is any loss that the authority has experienced on its pool receipts, namely the difference between its allocation and claim. If the loss outweighs the gain the authority is not losed and it that is not lost then exceeds a certain level in relation to the product of a penny rate then the allocation to the authority is increased to mitigate the loss.

The money for such mitigation is taken from authorities who have either benefited from the pool or only suffered small losses. If mitigation were applied in its simplest form of limiting the cash loss to no more than a penny rate product and applying it to the 1981-82 pool then the changes in the allocation can be estimated. Slightly over £11m would be redistributed with 12 authorities having their pool money increased. The 12 would be Barking (NELP), Barnet (Middlesex), Kingston, Coventry, Wolverhampton, Liverpool, Manchester, Sheffield, Kirklees, Newcastle, Sunderland and East Sussex. The greatest gain would accrue to Barking at £1.8m, the smallest change to East Sussex at about £150,000. This type of result would be exactly the intention that the Jones Group were trying to achieve. Authorities with large polytechnics would not be unduly penalized for providing that national resource.

However, it is doubtful if mitigation is going to be quite as simple as that because its principles will have been over-written by the larger discipline of the block grant.

The first difficulty is that a simple penny rate product is not necessarily the best measure of the financial consequences for an authority as the act of raising a rate also attracted grant under the old RSG system and still tends to in many circumstances under the block grant. As there is no reliable historic data on this interrelationship it is not yet possible to calculate how much an individual authority needs to lose in cash before mitigation operates. Consequently, the Pooling Committee has recommended that mitigation be introduced into the 1981/82 Pool at the first and subsequent stage of the rolling readjustment in about 12 months' time.

The implication of this is that authorities, like Barking and Kingston will flow less cash to the pool until mitigation is introduced. In the present financial climate losing cash flow is almost as serious as losing cash. This delay may substantially reduce the safety net effect of mitigation.

The effect of the Block Grant introduces a further concern. Stripped of its technical niceties the Block Grant system allows the Government to penalise authorities that it considers as overspending by progressively withdrawing grant as an authority's expenditure rises.

Looking at the authorities that would have attracted mitigation, a number of them are potential victims of the Block Grant. Consequently, it is possible that the regulations are designed so that an authority whose expenditure is increasing such that its block grant is being reduced will disqualify itself from receiving mitigation. If this does happen it would be completely counter to the intention of mitigation and would represent a serious blow to the colleges maintained by those authorities.

The third and final component of the 1981-82 system is the limit on a claim by each authority that is imposed by its historic unit cost. The problem that this feature is directed at is the wide variations between the amount of money that individual authorities claim from the pool and the amount that they eventually spend. Now the local authorities are not a monolithic group and they don't necessarily trust one another. Consequently it can be quickly recognised that an authority is so minded it pr submit a grossly inflated claim the expectation of receiving a portionately higher allocation tidy it ever difficult times. Fo no authority would ever co such an unsportsman-like ac privately, informed opinion name the culprits. The difficu that an authority is its own in these affairs and in the ab of a national body with stro powers, the Secretary of State no position to challenge a bid.

The simple way of cont bids was to devise a mecha that prevented the historic u in each authority from rising expectation was that the lo cost would be the average adjustment for inflation, costs in 1978-79 and 1979-80. thought that this limit would inhibit the greediest overclaim cause of two effects. First seems to have been a propen ately greater increase in the few years in non-laboratory work. The accounting system wo be likely to show this as a ris unit cost. Secondly, and more significantly, the general reduction expenditure, particularly in 1980 and the increase in student numbers has caused unit costs in polytechnics and colleges to fall rapidly.

While the exact details are not yet known it seems that the authorities had any of their claims disallowed because the unit cost is increasing. So one can conclude that the very existence of a limiter was a success. Once again a technical problem has been introduced. The local unit cost is meant to be the average of what in 1978-79 and 1979-80. The DES does not yet hold accurate data on 1979-80 so the unit cost limit on claims is 1978-79. The 1979-80 component will be introduced in [illegible] months' time when readjustment starts. The general effect of this is that as costs have been falling more authorities will be caught by this limit on their claim than at present. Of course, when they are caught it is much too late to do anything about it!

[redacted]

It has been possible to give precise and careful analysis of the mechanics of pooling because of a constructive and more open approach that the department has adopted. But mysteries remain. The provisional pool allocations for 1981-82 have been announced and can be compared, after making due allowance for inflation, with the allocation for 1980-81. All local approaches would have led one to expect that while there would be some legitimate variations in the factors such as the continuing breakdown of some teacher training colleges, the changes year to year would be broadly similar. But this is not the case, there is a shortfall of about 30 per cent between the claims off authorities and the allocations affected. This is far in excess of the usual 9 per cent overclaim and the only plausible explanation for this is that some authorities have put little effort into determining their claims when others. If this is the case then the l.e.a.s must learn quickly that the rules of the pool have changed and that the system is designed on the assumption that all participants will use the discretion in the rules to their maximum advantage. The lesson to follow that strategy will leave them in a position [illegible]

The analysis of the pool cannot be complete without some comment about the level at which the pool has been capped. All the technical complexities would be unnecessary if the pool were to be set closer to the legitimate claims that are made upon it. The pool is now being designed to meet the prime objective being to distribute as equitable distribution of funds as possible. It is not designed as a possible to conduct a comprehensive detailed analysis of the manner in which the pool had been used and is appropriate. In 1980-81 the total claim by authorities on the pool was £452m and the allocation was £230m, a reduction of 10 per cent. In 1981-82 the claim was £418m, and the allocation £418m, a reduction of 15 per cent. This indicates that claims that will already have been reduced as a result of the cuts in 1980-81. No technical explanation for the pool allocation. However, it does protect and maintain the principle of AFE against changes of magnitude.

The author is a senior lecturer at Plymouth Polytechnic and ex-president of Nuffo.

BOOKS

A liberal imagination

Beyond Culture: essays on literature and learning
by Lionel Trilling
Oxford University Press, £6.95
ISBN 0 19 212215 0

A Gathering of Fugitives
by Lionel Trilling
Oxford University Press, £6.95
ISBN 0 19 212214 2

The Opposing Self: nine essays in criticism
by Lionel Trilling
Oxford University Press, £6.95
ISBN 0 19 212216 9

by R. A. Gekoski

Lionel Trilling.

Until the happy decision of Oxford University Press to issue a collection of the works of Lionel Trilling (running to an eventual 11 volumes), only three of his books remained in print in England. All of the volumes with which Oxford have commenced are collections of essays which have been unavailable for some time. *A Gathering of Fugitives* (1956) is a compilation of ephemeral pieces originally published in *The Griffin*, and is of that kind of marginal interest that attaches to books which establish for us what an author's limitations are. *The Opposing Self* (1955), in contrast, was, in its time, an extremely influential volume, and continues to carry a sense of freshness and relevance. It is loosely organized around an attempt to define the "modern" (that is, post-1800) concept of the self: "born in a prison", and characterized by those powers of indignant perception that it has turned upon the dominant culture of its time. This adversarial role, as Trilling calls it, is a major theme of the essays in *Beyond Culture* (1965), which posits a second stage in the modern processes of alienation and opposition. Thus it is suggested that we have shifted from an earlier, and dangerous, form of inquiry ("Is it true? Is it true for me?") to that more contemporary —and, to Trilling, more profitable— question "Is it true for us?"

The Opposing Self and *Beyond Culture* are works of high importance, and they have the distinct impression that they are not so well known in England as they deserve to be. This relative obscurity is, in some oblique way, honorific. It is a transcendence of the moment profound and powerful commentators on our literature that they become assimilated to it. Trilling is not sufficiently read in this country because he is part of our literature, but the wrong part: or perhaps one might say that he has entered it from the back rather than the front door. Though the author of a fine novel, and a distinctive and consistently interesting volume of short stories, Trilling's appeal lies in the degree of his control over the form of the literary essay—and there is little tradition for the study of such, in their own right, in our universities. Where we read somebody on somebody else it is usually the somebody else in whom we are interested. Indeed, a professor of mine once informed me that our undergraduates ought not to do a course on the history of literary criticism, because it would afford them no "literary experience".

Either because they are not so keen on "literary experience" in America, or perhaps because they have something of a different sense of it, Trilling was very greatly admired there, enjoying a reputation which had some similarity to that enjoyed here by Leavis. Yet the parallels between their concerns and careers, and the relative proximity of their deaths (1975 and 1978 respectively), have elicited no sustained comparison. They shared a clear commitment to a view of literature as [illegible] and which it continued to require. While Trilling admired the results of such scrutiny—as well as being fully capable of producing them—he saw the limitations quite clearly: "This is a technique of great usefulness, but there are moments in literature which do not yield the secret of their power to any study of language, because the power does not depend on language but on the moral imagination." This insight magnifies itself, Trilling says, in the activity of painting, which itself reflects and re-enacts "one of the most general questions required exception of a kind, but neither was fundamentally engaged with the problem of literary criticism considered theoretically. For each, those problems were interesting because they were local problems—because the condition of England, and America, required their consideration.

Leavis's deepest commitment—like that of his first major subject, Lawrence—was specifically to the revitalization of English life, and it was through a right attitude towards particularly (though not exclusively) English literature that he believed that real progress might be made. Trilling, too, saw his work as cultural intervention of a fundamental sort; but American provincialism, smugness, insularity, are rather different from their English equivalents, and require different forms of address. In Trilling's view, this address is in the largest and most essential sense political. And in America the pressing political question of the 1940s and 1950s was, for Trilling, how to reinvest American liberalism with the energy and intellectual clarity which had been threatened first by an avoidance of the issues which led into a commitment to communism, and latterly by the political disenchantment of that same group as they gradually but surely left the Party.

According to John Stuart Mill, the prayer of all believers in liberalism should be "'Lord, enlighten thou our enemies . . .': sharpen their wits, give acuteness to their perceptions and consecutiveness and clearness to their reasoning powers. We are in danger from their folly, not from their wisdom: their weakness is what fills us with apprehension, not their strength." The sentiment which Mill recommended the study of Coleridge—served as something of a touchstone for Trilling, who used it in the preface to that great book of essays, *The Liberal Imagination* (1949). Commenting on Mill's observation, Trilling makes a comment which self-consciously defines his own effort: "a criticism which has at heart the interests of liberalism might find its most useful work not in confirming liberalism in its sense of general rightness but rather in putting under some degree of pressure the liberal ideas and assumptions of the present time." Those ideas are to a degree, still with us—but Trilling's observation is deeply rooted in the immediate postwar situation, and the need to reconstruct political confidence after the debacle of Stalinism. Though Trilling abandoned his communism earlier than many, and was, in any case, never full-bloodedly engaged in it, his work is implicitly committed not simply to liberalism, but also to the general problem: the rescue of the imagination from the ravages of ideology. Like the protagonist of *The Middle of the Journey* (1947), he has more intelligence than he knows, quite, what to do with.

There was an attractive option available, in the ground created by Richards and Empson, and increasingly inhabited by the New Critics, Tate, Brooks, Ransom, Warren, Blackmur: to strip text from context, to free literature not merely from politics, but from history. That effort, while it produced many of the methodological premises under which we are still operating, was never likely to enlist Trilling. He was too politically alert to look easily upon anything even implicitly claiming to be value-free and ahistoric, nor did he share the New Critics' passionate concern with poetry as the (as it were) essential literary mode. In its linguistic concentration and tension, the lyric provided the New Critics the perfect subject for that intensive scrutiny on which their methodological scrupulousness was founded, and which it continued to require. While Trilling admired the results of such scrutiny—as well as being fully capable of producing them—he saw the limitations quite clearly: "This is a technique of great usefulness, but there are moments in literature which do not yield the secret of their power to any study of language, because the power does not depend on language but on the moral imagination." This insight magnifies itself, Trilling says, in the activity of painting, which itself reflects and re-enacts "one of the most general questions required exception of a

the novelist. For when Trilling says that "literature is the human activity that takes the fullest and most precise account of veriousness, possibility, complexity, and difficulty", it is preeminently the novel that he has in mind. It is to the novelist—James Austen, James, Tolstoy, to name some of his particular favourites—to whom we must turn for our most acute and compelling images of human life. And the powers of the greatest novelists do not reside, in Trilling's view, in their language, but in what they notice—in the clarity, subtlety, comprehensiveness, humanity of their observation.

Trilling is thus frequently regarded as being interested in the content of novels, if not abstracted from their form, then clearly distinguishable from it. This has gained him admirers, and detractors who accuse him of methodological naivety. But to put the problem in terms of form and content—of the formalist New Critics and the moralist Trilling (or Leavis)—is needlessly to misconstrue the point. For Trilling due attention to the range of moral qualities of a novel is the fundamental critical act. And it is here that his judgment—his capacity to point—is so strikingly illuminating. It is so because he is so often simple, and right. In an excellent essay on *Anna Karenina*, he begins with the quiet observation: "To perceive the quality of Tolstoi's objectivity, one has only to compare it with Flaubert's." As the word is used in literary criticism, Flaubert must be accounted just as objective as Tolgoi. Yet it is clear that Flaubert's objectivity is charged with irritability and Tolstoi's with affection."

Criticism, no matter how methodologically sophisticated, cannot produce this kind of result without that quality of taste that Arnold called "tact": "(Indeed, it seems as if such sophistication can too often serve simply to obscure its absence: witness the obfuscation of so many structuralist readings of particular literary texts.) Speaking of George Orwell, Trilling makes a similar point, suggesting that we must (in our politics as in our literature) look "at things simply and directly, having in mind only our intention of finding out what they really are, not the promise of the great intellectual act of looking at them". This comes close to the attractive naivety of Arnold's "disinterestedness"—and there are other instances where Trilling seems to believe in a value-free point of perception—but it is critically different. We are not enjoined "to see the object as in itself it really is", but to attend to our *intention* to do so. This leaves open—perhaps uneasily—the question of whether disinterestedness is possible; but whether it is or not, we need to be aware of ourselves as seekers after truth.

I say "ourselves" because Trilling so often uses a collective voice. Indeed, the Trilling "we" has been much commented upon, and is by no means easy to locate or to describe. Sometimes it is used with an easy modesty ("those of us who think a little"), occasionally with an irritating cosiness (Flaubert "had a devoted admiration for Spinoza, as we all have"), but most frequently it is a large and intentionally loose term not see much with a reference as with a purpose ("Whatever else we also take literature to be, it must always, for us now, be the criticism of life."). Acknowledging an "assumption of cultural continuities", Trilling observed that between his own small yet heterogeneous group of New York intellectuals and an analogous class in, say, Nigeria, there is pretty sure to be a natural understanding". His purpose is to reflect this community, but also to enlarge and to sustain it.

Trilling's reiterated "we", then, points a picture that he both belongs to, and addresses. However implicitly, this suggests a special role for him, which, if he was too modest to claim, was certainly one that he recognised: the "literary figures" of modern American literature, there is a disregard of, say, Hemingway and Henry Miller, who are clearly, by the given criteria, examples of the species. More recently still, we have the figure of Norman Mailer, whose career so disturbingly enacts the uneasy virtue of having one's vision as well as writing it. My point is not that Trilling has got it wrong, but that his American figures are of a sort, because he himself is a figure of a sort.

And what sort? If we were to ask, as he does of Orwell, "what he stands for, what he is the figure of", then we should have to answer: of a profoundly reflective and generous sensibility, unnasily placed, like that of Matthew Arnold, in a cultural situation essentially alien to its temper. Trilling's insight into modern literature is certainly acute enough, but it is a cool and self-protective insight, issued in recoil from its subject, which he characterized as "the still seeking its own negation". Kafka, Gide, Proust, Joyce, Lawrence—the list could, of course, go on—he admired with a discernible unease, the same unease with which Arnold recalled from Shakespeare. All set bad examples; lead to a valuing of the wrong things, setting of false goals, exaltation of unhealthy emotions. "We are attracted by the idea of human life in, as it were, putrefaction, in viewing corruption—we sense the force gathering in the fermentation." And here Trilling, while acknowledging the appeal, and drawn by the energy, fears the explosion and wishes to disentance himself from the passionate advocates of the modern. Such advocates would, no doubt, dispute Trilling's sense that most important modern writers have made the Faustic exchange, and they would be right to do so. Trilling's recoil, though, places him. His affections, finally, are enlisted by the teeming imaginations of Dickens and Tolstoy —boisterous, intensely human, collective, utopian—in which the will defines itself not as a world, but as part of one. We have lost something of this, to be sure, as Lionel Trilling makes clear. He is not a figure of our time.

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BOOKS

The morality of punishing crime

Punishment, Danger and Stigma: the morality of criminal justice
by Nigel Walker
Blackwell, £9.95
ISBN 0 631 12542 6

Of all the pressing social issues in contemporary society, crime and punishment is probably the one upon which more relatively uninformed people have firmly categorical views than perhaps any other. People have to be goaded, for the most part, into a degree of consciousness about such things as bad housing, poverty, homelessness, mental handicap, or cruelty to animals, but about crime and criminals there are few who would be slow in coming forward with theories about how crime arises and may be dealt with.

But the problem of contemporary penology is not just that the subject is beset by ignorance among those who demand that it should demonstrate a credible effectiveness; rather it is a problem of the matter having been overwhelmed by the tide of utilitarian commitment that has come to dominate the drift of social policies generally. In short, penal philosophy, as distinct from principles of penal practice, has become reduced to all intents and purposes to a single predicate—that the object of penal measures is the prevention and reduction of crime and, consequentially, the promotion of the greatest happiness of the greater number in the context of their liberty to enjoy their goods and the inviolability of their persons.

It is, in some ways, truly amazing to see how the philosophy of utilitarianism has established its ascendancy in the minds of the policy-makers (and certainly in the minds of the practitioners). Steadily, but inexorably, professional penology has divested itself of any mandate to impose, and thereby implicitly make, moral judgments about crime and criminals. Although sociologists may argue that one of the functions of crime is to maintain the boundaries between deviance and normality and the definition of such things as property rights, little if any of this is explicit in the assumed objectives of penal measures. Nor is it entirely popular nowadays for judges to make denunciatory statements from the bench as they sentence offenders; such *obiter* are regarded—save perhaps for the readers of some of the sleazier newspapers—as at best irrelevant and at worst reactionary.

In short, punishment has for some people become a kind of dirty word, largely synonymous with retribution—itself deemed to be a highly undesirable thing. The psychoanalysts have suggested that the desire to punish, apart from its connexion with sadistic impulses in such contexts as corporal punishment, is related to the need for the punisher to control in others the behavioural impulses which he most fears and represses within himself. In the place of punishment, portrayed as essentially negative, repressive and generally lacking in any utility, we are encouraged to think of "treatment" in varying therapeutic disguises as the most worthy objective. The desire to repair both the harm done by crime and the shortcomings of offenders themselves in order to turn them into better people cannot be other than among the noblest of sentiments; unfortunately, what sometimes passes for "treatment" is not only lacking in effectiveness but is perceived by its recipients as being nothing but punishment administered under another name.

The title of Professor Walker's latest book is replete with implications for both sociology and philosophy. At its simplest, it is quintessentially "Walkerian"—donnish, yet possessed of that clarity and directness that characterizes the best of the Blue Book English—it will appeal to academic audiences. But it is not merely aimed at philosophers and professional criminologists, but at sentencers as well. The trouble is that sentencing is largely in the hands of judges who are not, as a majority, seized of a compelling interest in penal philosophy and its jurisprudential implications, and in the hands of lay magistrates who are not, as a majority, much known for their compelling interest in reading books of any kind. But since there is nothing complex about the book that should put off anyone with sufficient intelligence to *be* a sentencer, there can be little excuse for its not being widely read.

What Professor Walker does is to take his reader through the principal stages or features of the interactive process between society and the offender that are encapsulated within what we may broadly describe as the criminal justice process. To those caught up in the process as its objects, and to many of its agents, the practical considerations are paramount; but in his initial chapter the author points up the important difference between the moral and the pragmatic approach to crime control. Both may agree that a particular type of conduct is not to be encouraged and is the subject of disapproval.

For the pragmatist the question is simply whether on balance anything useful would be achieved by invoking the criminal law against it. The moralist, however, seems to agonise in a special way over this step. He may be willing to see all sorts of other steps taken to reduce the frequency of the conduct—education, propaganda, restriction of opportunities—and yet may consider it morally wrong to use the criminal law in the campaign.

It is here that the author may be fairly criticized for choosing a rather odd sort of class of examples, reminiscent of the problem posed by the old law that made attempted suicide a crime; should the law be used to compel such depressed people to seek psychiatric care? A better example would be that of the moral considerations in causing death by dangerous driving. The pragmatists succeeded in getting this offence distinguished from other crimes of manslaughter in the context of transport and in having the penalty on conviction limited to five years' imprisonment. The argument ran that this specially lenient treatment was the only way in which juries might be persuaded to lower their perversely high rate of acquittals in such cases. The moralists would argue that since the misery and pain caused by such killings is not arguably less than in other forms of homicide, and since there is plenty of evidence to suggest that in many instances homicidal drivers are as self-wilful and aggressive as they are negligently incompetent, the crime deserves to be punished for what it is. Interestingly enough, the parallel problem, of securing the conviction of drunken drivers, has been achieved by the two-stage device of establishing an objective test—the level of blood alcohol—which makes it impossible for a court to arrive at a verdict perversely at variance with the facts.

Since it is the author's express aim to "clarify issues", and not to indoctrinate, it might be instructive to discover something of the author's position. There is certainly some reason to think that it leans towards a variant of the utilitarian. In his disquisition on "treating", for example, he puts forward two possible arguments against releasing a prisoner earlier than the length of his sentence dictates if he responds to treatment. One, the sentence represents the correct amount of retribution and should not be diminished just because the offender seems less likely to offend again; two, it is unfair to release X earlier than Y just because X is fortunate in being more responsive to treatment (as distinct from being repentant or of performing any other virtuous act). The first argument is dismissed as something that can be advanced only by a "punisher of the old-fashioned, Kantian kind" and the second by saying that since we do this with non-offenders in hospitals the objection to doing the same with prisoners must again be old-fashioned retributivism".

For an author who maintains that his desire is to clarify and not indoctrinate he succeeds in achieving a subtler, but more effectively persuasive stance, namely to suggest that certain things can be regarded as "given" or "established". Thus Kantian philosophy on this score is portrayed as "old-fashioned" and retributivism in like vein. Utilitarianism is certainly not a new arrival, yet its pragmatic elements are not similarly held to be positively outmoded. But the weakness of the author's argument is betrayed in the two examples. It is precisely because the criminal act is frequently an *immoral* act that a retributivist dimension cannot be ignored.

Criminal acts are often vile and cruel in their deliberation and thereby morally objectionable whether we get the sentence right in proportion is arguable, but that is not what Professor Walker is arguing about. The comparison with hospital patients is simply inadmissible; people go to hospital because they are sick, not because they have done wrong. To release X and not Y on account of factors that lie beyond the scope of this moral choice is a fundamental denial of natural justice. It demands that (a) those who are otherwise equal deserve to be treated equally and (b) a person's fate should be determined not by chance or any other capricious event, but by his desert as evidenced by his behaviour and attitudes generally. That Walker is critical of C. S. Lewis gives us an important clue to understanding his commitment to the idea of "treatment" in some form or other.

In his discussion of "retraining" Walker will not go very far towards satisfying those who long for a broad perspective on legislation. There is mention of Mannheim, but none of Mary Douglas, yet it can be argued that under the guise of social control directed towards the maintenance of moral good—the law-enforcement process gives form to those social perceptives that derive from the basic philosophy of those who dominate society. Why society stigmatizes pot smokers more than its drunk drivers, its bank robbers more than its wife beaters, its usurpers, youths rather than its corrupt public servants; these are not unimportant questions.

At the end of the book, Walker emerges as—to use his own words—a fairly pessimistic reductionist, who rejects retributivism and retreats on desert. He rejects even more unequivocally the idea of deterrence. In so doing he describes himself as being very much an "old-fashioned" liberal. In his opposition to retributivism he is simply arguing about. The comparison with hospital patients is simply inadmissible; people go to hospital because they are sick, not because they have done wrong. To release X and not Y on account of factors that lie beyond the scope of this moral choice is a fundamental denial of natural justice. It demands that (a) those who are otherwise equal deserve to be treated equally and (b) a person's fate should be determined not by chance or any other capricious event, but by his desert as evidenced by his behaviour and attitudes generally. That Walker is critical of C. S. Lewis gives us an important clue to understanding his commitment to the idea of "treatment" in some form or other.

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Terence Morris

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Implicit contracts of employment

Sociology, Work and Industry
by Tony J. Watson
Routledge & Kegan Paul, £10.00 and £5.95
ISBN 0 7100 0542 3 and 0543 1

Two overriding problems confront anyone who sets out to provide an introduction to the sociology of work and industry. The first, which is common to writing about the sociology of any other field of study, is choosing which theoretical perspective to adopt from the many available alternatives; the second and more specific is how to define the substantive area of interest.

Tony Watson tackles both problems explicitly and carefully. The first quarter of his book is devoted to a discussion of sociological perspectives and to establishing his own theoretical framework. After outlining five theoretical strands—managerial-psychologistic, Durkheim-systems, interactionist, Weber-social action, and Marxian—he adopts a position which can be characterized as based on Weber with a considerable helping of Marx. Such an approach will not satisfy everyone but probably represents the middle of the road in British sociology at the present time.

It allows him to bring together a wide range of material to form a reasonably comprehensive base to be selected without any real consideration of those theoretical perspectives which would question the taken-for-granted nature of the concepts and evidence with which most sociologists and the "man in the street" construct their understanding of the world. It lacks the specificity and rigour which can be derived from a fully Marxian analysis, so that, for example, the idea of contradiction is modified in a way which involves a much more heterogeneous set of issues; but of course it avoids the more problematic elements of a Marxian analysis too. The organizing concept for the book is that of an implicit contract between employer and employee which regulates their relationship but is constantly being jeopardized by pressures and changes in the wider societal and economic context.

The discussion of substantive areas starts with the general nature of capitalist industrial society and goes on to consider work and the individual, occupations and organizations as means of structuring work and industrial conflict. Inevitably the coverage of these topics is somewhat uneven in terms of both content and quality. The notion of "orientations to work", for example, and its uses are explored in considerable detail; both professions and marginal occupations are used as illuminating examples of the ways in which work can be structured; the links between hierarchical organizations and the class structure are particularly well spelled out; and a wide range of aspects of behaviour is drawn on to illustrate the unofficial and informal activities of control, challenge and defence at work.

On the other hand the treatment of the labour market as an area of growing interest to many sociologists is brief and unsatisfactory; discussion of work organizations is almost wholly based on studies of conventional industrial (i.e. manufacturing) organizations; and although it is claimed that sociologists' interest in conflict goes beyond the confines of "industrial relations", the central subject matter of that academic specialism—trade union membership, organization, collective bargaining and strikes, receives scant attention.

Any introductory book requires a compromise, and this is clearly signposted and for the most part argued in detail. It is written with a minimum of jargon and elucidates a number of arguments and complexities and clarifies ideas and relationships. It should be welcomed by students from both specialist and general audiences. It is a pity though that more use is not made of illustrative cases and examples from the USA and Britain, and the use of some of the studies quoted are somewhat dated. It is briefly that these references is scarcely clear; but the text is well referenced and there is a useful bibliography, so that it should encourage further reading.

In his concluding chapter Watson states that he would like his work to contribute to informed political thought and decision-making; he deserves to.

Richard K. Brown

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Fashions in sociology

Sociology: its nature, scope and elements
by Ronald Fletcher
Batsford, £12.50
ISBN 0 7134 2525 3

Sociological Theory: uses and unities, second edition
by Stephen Mennell
Nelson, £9.50 and £4.75
ISBN 0 17 711131 3 and 712125 4

It is Ronald Fletcher's view that sociological theory has hardly progressed since 1939; that the central concerns of sociology have been lost sight of while sociologists have pursued blind alleys, wallowed in trivia and engaged in pointless ideological disputes. The classical theorists, notably Comte and Spencer, laid down broad principles and established sociology as the study of social systems and social association. Weber and Durkheim and their contemporaries consolidated the subject with relevant theories and methods. In the twilight of the golden age of sociological theory Talcott Parsons either misunderstood or ignored his intellectual fathers. He retreated from substantive theory to "intermimable conceptual discussions" and was thus responsible for the division of sociology into "false" schools.

Now it is true that the early theorists often held a clear conception of sociology as the distinctive science of society that is nowadays lacking. They shared a central purpose—the understanding and explanation of the development of modern industrial society. But Parsons, it seems to me, far from representing a break with their work, consolidates and synthesizes it. Parsons's modernization theory shares with the classic theorists a Eurocentric evolutionary view of western industrialization, with its accompanying "malaise of society", simply spreading out and replicating itself globally. The increasingly recognized inadequacy of this view may be one reason why the discipline of sociology—if it is such—has become rather fragmented. Those who have retained the classic theorists' concern with broad issues of social change have recognized the need for historical and economic, as well as sociological analysis, while others have focused on more modest, middle-range theories. Yet others have succumbed to the succeeding fads of modern sociology—either becoming totally absorbed in the trivia of everyday life, or escaping into the depths of incomprehensible theorizing, or perhaps adopting the posture of the radical sociologist. These failings are well known, but it is somewhat jaundiced to imply, as Fletcher does, that they characterize virtually all contemporary sociology.

In fact, as Mennell's valuable book demonstrates, sociological theory today often shows scholarly concern with serious problems in the analysis of social life—such as the interpretation of meaning and the analysis of power: nor is the contribution of earlier theorists always neglected. Mennell has substantially rewritten a text with a good reputation among sociological theory teachers, and the new edition is updated and much improved. The first edition gave clear and useful accounts of particular theorists' work. In addition to this, the new edition is more successful in indicating the unities of the subject. There is still no overall sense of unified purpose, but rather a set of interrelated problems and issues. This fairly reflects the state of sociological theory. Unity and agreement may be desirable, but not if they are based on false premises.

Mennell also exposes the pitfalls of some modern fashions—notably Althusserian Marxism, shown as a modern variant of functionalism. His careful reasoning contrasts sharply with Fletcher's polemical denunciations. The sixth-former—for that is whom Fletcher claims to address—is supposed to consider whether critical sociology is neo-Hegelian or neo-Marxist, but is given *no* indication of what these terms might mean. He is told that ethnomethodology is concerned with "Indexical Expressions", but not what these are.

Fletcher's account of the classical theorists consists largely of an array of lists of their various classifications of elements of social systems and societies. His intention is to indicate the common elements, but this would have been achieved more effectively by focusing the discussion on these. The numerous complicated diagrams add to the late-Victorian flavour of the book, but have little meaning: the vague boxes and arrows do not clearly indicate the nature of the links between the elements of the systems. I am sure Fletcher is right in his view that sixth-formers can cope with complex material, but no one can make much sense out of complex material that is incomprehensible. The first part of the book, setting out the nature and scope of sociology, is clear and lucid, and has the vitality of work written from conviction. Unfortunately, his conservative convictions sometimes get the better of him, and he is found to trespass against his own prescriptions. Sociology, he says, is a science concerned with truth; but is his assertion that *all* collectivist alternatives to capitalism are totalitarian a scientific statement? He insists on the importance of the comparative method, but I wonder what collectivist alternatives he has compared? The comparative method is also, he says, historical: yet his lack of any sense of history is exposed in his equation of the "modern industrial society" of the nineteenth-century theorists with contemporary industrial society. Is he really in a position to denounce "revolutionaries who insolently brush aside all concern for academic standards, for criteria of truth and testability"?

Not all fashionable sociology, as Mennell shows, is bad; neither do unfashionability and antiquity guarantee excellence.

David Berry

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Reviews and observations

Emile Durkheim: contributions to L'Année Sociologique
edited by Yash Nandan
Free Press, £9.75
ISBN 0 02 907980 2

Emile Durkheim was not merely an articulate and original contributor to social thought, he was also a man with a mission. Durkheim was committed to promoting and establishing the fledgling science of sociology as worthy of equal standing with the principal disciplines taught in the prestigious institutions of turn-of-the-century French academic life.

His defence of the independence of this discipline from related fields such as history and psychology, and his assertion of its scientific character, were predicated upon certain assumptions. He held that there was a domain of facts independent of individual volition, deriving from social forces external to particular individuals and exercising constraints upon their actions. These facts and forces he believed could be studied in the objective manner of the natural sciences with the same goal of demonstrating the existence of laws of social behaviour and development.

Durkheim's vigour and originality in articulating his conception of the fundamental principles of sociology led to his advancement into the elite ranks of the Sorbonne, and also to his attraction of a band of young scholars and mature colleagues for whom these principles offered the promise of new and more systematic insights into the subject matter of a broad range of intellectual inquiry, including legal history, anthropology and even ethics.

By 1896 Durkheim had become the leader of a school of thought which he sought to advance not only through his lectures and his systematic studies of a substantive and methodological kind, but also through the foundation of a specialist journal, the famous *Année Sociologique*, through which to communicate its ideas and achievements. Apart from original articles by Durkheim and his collaborators, it contained extensive reviews of books and articles in sociology and related fields, such as law, criminology, church history, and even geography, which could be turned to the task of displaying the superior analytical and explanatory power of Durkheim's system.

Hundreds of these reviews were written by Durkheim himself. Clearly, given the nature of the enterprise and Durkheim's aspirations, any serious expositor of his thought would do well to devote some time to perusing the twelve volumes of *L'Année* which appeared before his death in 1916. But, after this considerable lapse of time, most of Durkheim's substantial articles first published in *L'Année* have long since been translated and are readily enough available. Among the remaining prefaces and reviews, hitherto untranslated, which Nandan now reproduces, there are a few items of intrinsic interest. Durkheim's comments on Simmel's *Philosophie des Geldes*, on Marianne Weber's *Ehefrau und Mutter in der Rechtsentwicklungs*, on articles by Troelsch and Pareto, have a certain curiosity value in showing the thoughts of one of sociology's founding fathers upon the work of other major contributors, or those strongly influenced by them.

The vast majority of these pieces, however, seem of scarcely more than antiquarian interest. I see little to be gained in our understanding of Durkheim's thought from his observations on David Amrant's 1897 study of *The Jewish Law of Divorce According to Bible and Talmud*, which runs to two pages, and even less from the numerous briefer pieces, such as that reflecting on a volume by Detmer, which in its entirety says no more than that: "The author sets through his lectures and his systematic studies of a substantive and methodological kind, but also through the foundation of a specialist journal, the famous *Année Sociologique*, through which to communicate its ideas and achievements. Apart from original articles by Durkheim and his collaborators, it contained extensive reviews of books and articles in sociology and related fields, such as law, criminology, church history, and even geography, which could be turned to the task of displaying the superior analytical and explanatory power of Durkheim's system.

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Reviews and observations

lated parts of *L'Année* which stimulated this project. But the reasons for this apathy are surely not far to seek. Durkheim's principal ideas certainly appear throughout these reviews, but they have been presented in more systematic and fully elaborated form elsewhere in translations of his better-known works. It seems perverse to labour through these many too brief comments on books and articles long forgotten to discover no more than could be gleaned less painfully by other means. This volume may find a place as a work of occasional reference in university libraries, but it is hard to conceive that anyone for whom it was important to know Durkheim's thoughts on Milioukov's 1901 *Essais sur l'histoire de la civilisation russe* would not already have taken the trouble to learn French and look up his remarks in the original.

Nandan claims, however, that these reviews will "answer some of the questions sociologists are raising today", such as: "If *The Elementary Forms of Religious Life* constitutes his greatest work and manifests vividly his inspiration, how much does Durkheim owe for borrowing from Spencer and Gillen's scholarly work and ethnographic study of the Australian tribes?" Sadly, however, this is precisely the sort of question on which this volume will throw no light whatever, for Durkheim's review of Spencer and Gillen's *The Native Tribes of Central Australia* in the third volume of *L'Année* has been omitted from this collection, along with all the other reviews Nandan interpreted as anthropological rather than sociological, and indeed—for reasons that I can nowhere find explained—along with all of Durkheim's reviews in the category of "Religious Sociology". The editor's introduction is neither very enlightening, nor very well written.

Roy Wallis

Roy Wallis is professor of sociology at The Queen's University, Belfast.

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BOOKS

Every day, in every way—

History of the Idea of Progress
by Robert Nisbet
Heinemann, £8.50
ISBN 0 435 82657 3

Professor Nisbet dislikes modern historical scholarship in its fashion for precision and sceptical objectivity because it destroys our sense of a "common, understood and accepted" past. It is this destruction, he believes, together with a loss of faith in the "nobility, even superiority" of western civilization, in the deliverances of economic and technical advance and even of reason itself, above all "in the intrinsic importance, the ineffaceable *worth* of life on this earth", which has induced the first collapse since the Renaissance in the belief in progress, a belief which has otherwise been sustained since Bunce. Accordingly freed from the scholarly fashions which are themselves part of the problem, Nisbet attempts to recall to us our senses.

He uncontentiously asserts at the start that a conviction of progress has done more than anything else to give men hope. He drearily asserts at the very end that it is only "in the context of a true culture in which the core is a deep and wide sense of the *sacred*" that we are likely "to regain the vital conditions of progress itself and of faith in progress". But if the scepticism of the science which Nisbet has himself spent a life professing has any credibility, and if Vico, indeed, one of his heroes, is to be believed, the "sacred" can take many forms, all of them more or less elaborate and more or less illusory projections of the real, and can produce virtually any belief one cares to name. What Nisbet appears to mean to say is that despite all the jeremiads, we should simply and uncritically reaffirm our faith in the West, whatever that is, in economic and technical advance, and in reason, although not that shallow reason as an end in itself which is the cauterizing legacy of the Enlightenment and the sad end of philosophy. What he does not ever say is *why* we should regard all this as sacred.

This is not then a book for scholars. Not only does it inevitably rely on secondary sources, but it also ruthlessly bends and selects from them to make its point that the most unlikely men have really and in fact accepted the Greek commitment to an advance of the arts and the sciences and the "Augustinian fusion of Jewish millenarianism and the Greek idea of unfolding growth into the Christian philosophy of history". Nisbet's *History* is rather a book for those who are prepared to credit that the sheer persistence of some belief in the past is sufficient reason to banish any doubts about it now. For what is most remarkable about the book is that it gives no other grounds for what it claims to be true.

Geoffrey Hawthorn

Geoffrey Hawthorn is lecturer in sociology at the University of Cambridge.

The University of Keele's Sociology Review Monograph 29 is devoted to the subject of *The Sociology of Journalism and the Press*, and is edited by Harry Christian. It deals in particular with the "political economy" of the press. Published from the University of Keele, it costs £14.00 or £7.90.

Women pounding the beat

Breaking and Entering: police-women on patrol
by Susan Ehrlich Martin
University of California Press, £9.00
ISBN 0 520 03908 4

In Amsterdam policewomen entered patrol work some 10 years ago. They still face prejudice and restrictions on mobility so that they do not become detectives (although they perform well in plain-clothes work), cannot join the mounted branch (one horse woman passed all tests, including humping bales of straw, with flying colours and was then told "sorry, we have no toilet for women"), and are excluded from the riot squad. But now there are some highly experienced police-women who are self-confident, assertive, and effective on the streets and who are "mentors" for new police-men. There is no doubt in my mind, and research in progress confirms, that some of these women are much better than many policemen.

In Great Britain, since 1974, women have been given an excellent opportunity to reach specialized positions and senior posts although this interesting integration awaits evaluation (the Home Office has begun a project in this area). Susan Ehrlich Martin, following the footsteps of Rosabeth Moss Kanter whose *Men and Women of the Corporation* made a significant contribution to analysing both women's and men's mobility paths in organizations, does provide us with a very astute portrait of women trying to make headway in a man's world — that of the police occupation and organization. Imagine that you are a young, black, working-class, novice policewoman in the bawdy and irreverent culture of an American urban police department, and that a white upper-class, feminist college professor, enlisted in the police *reserves*, wants to study your problems. It sounds like a recipe for disaster. But it is not, and we get a very thoughtful book, well-written (but do Americans learn to deliberately split infinitives?), with a broad knowledge of the literature, and with able use of the interview and observational material. Women's studies need careful and detailed examinations like this of the manner in which gender both affects institutional arrangements in the workplace and is affected by them.

The title is superb but the subtitle is somewhat misleading as this is less a study of policewomen on patrol than of their problems of integrating into a masculine, if not "macho", occupational culture. Ms Martin became interested in the police through teaching them, began to focus on policewomen because of informal contacts in a force, and became a reserve officer (with handcuffs, mace, and night-stick) because she could not get formal permission for her study. I would have liked more analysis of her research dilemmas as I have come to the conclusion that the lone maverick style of participant observation is dangerous in terms of objectivity and data-collection. This study would have lent itself well to having a male partner to crosscheck material and, more importantly, to enter the two worlds barred to Ms Martin — the locker-room (from which dirty guffaws and clearly a great deal of opposition to the women existed who had dilemmas in relation to training standards, sexual advances and remarks, their male colleagues, their *female* colleagues, members of the public, and to handling violence. Women officers received less favourable assignments, had to patrol frequently on foot without a radio rather than in the cars, were left outside buildings on dangerous calls, had to wear men's shirts, hats, ties and raincoats, faced sexual harassment, and were told to "go home and cook dinner" by irate citizens. The women responded by developing two major styles; *police*women pinced a strong emphasis on "professionalism", assertiveness, occupational achievement, loyalty to the department, a

A San Francisco policewoman who was interviewed by Alan Whicker on television last year.

strong law enforcement orientation, and shared the men's negative evaluation of policewomen; policewomen were often under-achievers, protested about discrimination, isolated themselves socially, and sought non-patrol assignments to reduce conflict with family roles. The dropout rate itself had done very little to monitor developments and the women had forged "Policewomen in Action" to protect their interests.

Ms Martin's suggestions about changing this situation are a little thin but then the strength of the work is its case-study portrayal of the multiple handicaps faced by women entering the police (as a particularly good one just in the workplace) where they threaten to compromise the work, the way of life, the social status, and the male image of the men in one of the most stereotypically masculine occupations in our society".

Maurice Punch

Maurice Punch is professor of sociology at the Netherlands School of Business.

Social responsibility for deviance

Folk Devils and Moral Panics: the creation of the mods and rockers
by Stanley Cohen
Martin Robertson, £12.50 and £3.95
ISBN 0 85520 323 4 and 344 7

This book is a re-issue of a study first published in 1972 under a different imprint. In the new introduction to this edition the author reflects on the significance of his original monograph in relation to subsequent theoretical developments in what we now term "the sociology of deviance".

As he points out, in the last decade has witnessed a phenomenal growth in sociological texts adopting the *verstehen* approach, and there has been a spate of so-called "appreciative" studies which have been concerned with the deviants' own feelings and perceptions, rather than with delinquent behaviour seen mainly from the standpoint of law-enforcing agencies, like us, of course. The logical development of earlier subcultural theories and researches with which the name of Albert Cohen is widely associated. But these "appreciative" studies have extended subcultural analysis to one important way. They have exploited empathy to such a degree that it is now unclear whether the deviant behaviour is regarded as faulty and by so doing they have created a new and highly radical school of criminologists who see the causes of crime in the structure of society rather than in the offender's psychology or personality defects. Such a view — although often exaggerated for ideological reasons — has undoubtedly much evidence to support it, and is a useful corrective to simplistic condemnatory and moralistic approaches.

When I first reviewed Cohen's pioneering study of the mods and rockers of the late 1960s, it surprised me that it could lead us towards a painful re-appraisal of our traditional methods and indeed our whole philosophy for coping with deviants and handling rebellious youth". This has not in fact happened: policy-makers would still rather enforce purely punitive measures than attempt reorganization of our education and youth services to meet the challenge of prevention. Indeed, what Cohen had to tell us a decade ago is still highly relevant to the social problems of youthful intransigence, and the general public, alas, is likely to continue to be baffled by theses such as this.

Cohen argues that most societies experience moral panic when any groups visibly seem to challenge their established values and life-style. The mass media seize on the opportunity to spread the bad news and to feed the fires of fear and prejudice. Prosecution of young offenders, processing through the courts with accompanying publicity, creates the young folk devils whose very existence is seen by an affront to accepted decencies. "The moral entrepreneurs", to use the author's terminology, personified in newspaper editors, politicians, clergy, magistrates and other public dignitaries and spokespeople, elaborate on the theme and so amplify the deviance", with the result that what was perhaps little more than a minor outburst of hooliganism or deviancy vindictism is elevated into a major social problem. Thus it was with the mods and rockers who invaded the beaches and promenades of southern seaside resorts a dozen or so years ago; so, to some extent, it is today with their reincarnations as football hooligans, punks, bootboys and "Front" thugs and gratuity vandals.

Stan Cohen was personally present at a number of the scrimmages and disturbances he describes in his book, and the quotations from radio reports and newspapers he collected at the time provide vivid documentation for his thesis. Undoubtedly, as he argues, public reaction is as much a part of the delinquency problem as the behaviour of the young offenders. And labelling processes and media exaggeration are as much leading and obfuscating as are political explanations which are contemporary sociologists in a thrust upon us. Cohen does well, in his new introduction, to point up that ideological interpretations on left-wing romanticism are also beyond the range of conscientious of the young delinquents are supposed to be their vehicles and exponents. He quietly acknowledges in every cause in seeing [illegible] misdemeanours as reactions against the capitalist system and bourgeois society.

I sometimes have a cause working-class kids suffering awful triple jobs fate. First, their actual current prospects are grim enough; then their predicament is used, shaped and turned to financial profit by the vested interests which created them in the first place; and then — the final irony — they themselves patronised by the latest vocabulary imported from the Left Bank.

How right he is, and how [illegible] ordinary readers must be wondering of all the pseudo-intellectual theorizing of neo-Marxists and the Gloomy though the prospect of [illegible] may be, politicized explanations and romantic deviancy perspectives will help no one, least of all the youngsters of socially deprived neighbourhoods themselves. More sensible and humane solutions to their problems. A re-reading of Professor Cohen's book may help to throw light on a still confused area and cause self-confident [illegible] of whatever variety to [illegible] again and then to think before presenting their analyses and prophylactics to policy-makers and the intelligent lay public.

J. B. Mays

Dr J. B. Mays was until recently professor of sociology at the University of Liverpool.

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BOOKS

Occupational therapy

Social Stratification and Occupations
by A. Stewart, K. Prandy and R. M. Blackburn
Macmillan, £15.00 and £5.95
ISBN 0 333 24329 3 and 24330 7

All those who think of themselves as social scientists will at some time or other during their careers confront the nature of what is known as the occupational structure or occupational system. That occupations are "patterned", "clumped", or structured into a system is taken by most to be axiomatic. But what structure, what system?

Much sociological work takes the occupational structure for granted — uses it as a base and goes smartly on to more interesting things: like changes in the class structure. That is really like those rags-to-riches stories told by entrepreneurs that begin, "after I borrowed/made/stole my first hundred thousand . . ." which really give little indication to the rest of us of how to become millionaires. As so much systematic study of British social structure centres on occupations it is surprising that so little work has been done directly on the occupational system.

As a consequence our understanding is actually pretty shaky. For instance, most of us tend inaccurately to confuse actual jobs with their occupants: though we pay lip-service to the need to keep them apart analytically in practice we usually do not separate them. This becomes crucially relevant as sociologically and politically significant points in the occupational world. Take, for instance, "clerks". Every first-year undergraduate knows that there is a debate about the class location of "clerks": a perennial examination question asks—"are they middle class or falsely conscious proletarians?". Yet the occupation "clerk" turns out on empirical investigation to be less of a permanent position in something called the "class structure" for those who are currently clerks, and more of a "way-station" that can only be understood as part of a much wider social process which brings age back into the analysis.

Social Stratifications and Occupations will set a large and agile cat among a flock of sociological pigeons (a flock that contained the old flightless monster that should never have been hiding there anyway). It challenges the conventional sociological wisdom that occupations can be used as an indicator of class or status position in any but the crudest metaphorical manner. If this Cambridge team's assault is successful then several British sociologists—as well as several on the other side of the Atlantic—will have to go back to their drawing boards. It is unlikely that they will retreat easily, so we can confidently expect responses—especially, I imagine, from Oxford. (The battle has begun—see Goldthorpe's unfriendly review, "Three Monographs in Search of a Theory" in *New Society* January 1, 1981). Stewart, Prandy and Blackburn's work must be seen as a direct challenge to the social mobility studies associated with Goldthorpe and Halsey at Nuffield College, whose procedures (and, by implication, conclusions) are called into question by this book.

This team has been working together in Cambridge now for at least a decade, and their findings have "been eagerly awaited". It is no secret that they have had chronic funding problems. And as both a cause and consequence of this, they have yet to report full any of their recent projects. We can now though begin to see what we shall receive. There are these apparently oddly assorted sections in this book; though each is internally coherent; they are seemingly only indirectly related to each other, and are not equally important to the sociological enterprise. Stewart, *et al.* argue that, occupations are held by individuals in a diversity of circumstances when account is taken of their careers (experienced and anticipated). Typically, individuals move between types and levels of occupations as their careers develop, and consequently the attempt to associate occupational position and class position is misconceived because it ignores the processes of the reproduction of the total system of inequality.

Their first section produces their occupational scale. We can feel here some of the team's past difficulties which have both prevented scientific progress and been the cause of mistrust of their work among outside funding bodies. Their current conceptions of the relationships between occupations and stratification—to which the whole book is addressed—*past-dates* the collection of data used in the scale. Their central conclusion is that the stratification system is both more coherent and more consistently ordered than has frequently been apparent, and to support this claim they undermine all previous scales and produce their own "relational" scale. They demonstrate that it is possible to extract regularities in the stratification system if we find out not only what a person's occupation is, but who their friends are and what jobs they do. On that deceptively simple insight a very sophisticated analysis is built.

The Cambridge team has long been associated with such sophisticated analysis as well as meticulous data collection. It is now apparent to all that this is also combined with a theoretical agility we suspected but were not always privileged to see. Their technical analysis is, I would guess, not fully intelligible to more than a dozen or so social scientists in this country. I also suspect that not quite enough is revealed here for their analysis to be fully open to scrutiny. The authors would no doubt reply that it is not their job to provide remedial research methods training to incompetent British social scientists. Yet their techniques, unlike those of some others, are not so far in advance of the problems that they are working on as to be laughable. They can show that there is still a break in the social relationships between manual and lower white collar types, and between the latter and managers as well as between managers and professionals. Their results make good intuitive sense and they are rightly proud of this, though they do not show their scale the excessive respect that they feel the Oxford team has shown theirs.

Their second section is rather different. Its aim is to demolish myths associated with stratification theory, especially those surrounding the clerical workforce. Earlier writers are accused of "reifying clerk":

> the basic flaw is to regard clerical work as the defining characteristic of the social position of those employed in it, to regard "clerk" as a social reality of the stratification system. The flaw consists of equating people and jobs.

These are essentially "limbering up" chapters—strenuous sociological exercises getting the team fit before the real production to come. Their sparring partners are just about anybody who has written on stratification in Britain since the 1950s. Their opponents are bruised to varying degrees, but few are knocked out—the Cambridge team aims to win on points.

In their third section, "Education and Careers", they deploy much more of their own data. In doing so they point out the serious implications of their position for conventional social mobility studies which are dependent on what can now be shown to be an overly static and simplistic understanding of "occupations". One of their most significant findings is the extreme importance of part-time study in the development of careers—again this has usually been ignored in previous mobility studies. Their work is an important corrective to Halsey, Heath and Ridge's *Origins and Destinations*—the "education" volume of the Nuffield Mobility Studies. By and large the importance of part-time education—not as the alternative route, but as an integral part of many career structures, has been curiously invisible to those who research from the most prestigious—and full-time—part of the tertiary sector.

Stewart, Prandy and Blackburn have clarified our vision and also show that the notion of an "alternative route" depends on an implausible model of society with unreal divisions between individuals and the occupational system. They also produce some convincing material on the relationship of income to education and can give no support to the belief in "an embattled lower white collar group desperately defending middle-class lifestyles on inappropriately low, and falling, incomes".

The Cambridge data, as is now usual, excludes women. This deficiency cannot be acceptable for much longer and unfortunately makes this Cambridge work about as directly relevant to the realities of the social structure as are the Nuffield mobility studies that also exclude women.

The Cambridge team are at their analytic best when demolishing the new breed of American-multivariate Marxists, like Erik Olin Wright, who have now added Poulantzas to their path-analysis. Again we eagerly await the replies—from Madison rather than Nuffield this time. It is important to appreciate that this is no mere empirical demolition but a theoretical assault of great force. I should point out in fairness to the authors that such a distinction would no longer be accepted by them, since they believe "that any attempt to produce social explanation which is built upon a distinction between social structure and individual characteristics is built upon a paradox which will ultimately be revealed".

The theoretical introduction and conclusions can be pleasurably re-savoured after the three main sections of this landmark book have been devoured. The Cambridge team's longstanding commitment to real sociological analysis has been impressive. No uncritical positivism here—but a clear dedication "to the unity of knowledge of the social and material which is transformed by experience". They have shown that it is possible to produce fundamentally important sociology without necessarily writing up empirical projects in conventional ways. Most of their sociological difficulties are now behind them, though having "put age back in" could they now put gender in too, I wonder? Certainly at least as much empirical, theoretical, and analysis work remains to be done before we have anything like a realistic understanding of social stratification and occupations which include women.

Colin Bell

Colin Bell is professor of sociology at the University of Aston in Birmingham.

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BOOKS

Electromagnetism

Electromagnetism and its Applications : an Introduction
by R. Bolton
Van Nostrand Reinhold, £10.00 and £4.50
ISBN 0 442 30243 6 and 30244 4

Every schoolboy knows about satellites and microcircuits, but his knowledge is descriptive and lacks a numerical basis. Hence in Lord Kelvin's phrase it is knowledge of a meagre and unsatisfactory kind. Engineers who can design and use such devices need to be familiar with the underlying conceptual framework of electromagnetism which brings vague description into sharp scientific focus. How then is this subject to be taught to aspiring engineers?

There is no easy answer to this question. The theory of electromagnetism is one of the most profound achievements of the human mind and has taken centuries to develop. Present-day theory can be summarized in a beautifully concise form known as Maxwell's equations, and many university teachers start with this summary from which particular cases are derived. This is a possible way, but its danger is that students find the approach cold and abstract. In any case Maxwell's equations are not equations to be solved in the ordinary way, because they contain within themselves an infinity of possible solutions. They are rather an invitation to explore vast mountain ranges of possibilities, where present discoveries can be compared with the foothills.

The author of this book is well aware of the difficulties facing the teacher of this subject and has overcome them by skilfully blending theory with applications. There is no doubt that he is a very gifted teacher and it is not surprising that his students have shown enthusiasm for the subject, as is stated in the preface to the book. He rightly takes the physical phenomena as central to his treatment and uses them to introduce the mathematical terminology.

There are 38 short sections in the book, which are roughly divided between electrostatics and magnetics. Electromagnetic waves are touched on only briefly. The treatment of electrostatics is particularly good and is enlivened by descriptions of dust precipitators, xerography, motors, space propulsion, thunderstorms, high-voltage insulators, van de Graaff machines and charge-coupled devices. Interleaved with these applications there is an excellent treatment of the concepts of charge, potential, permittivity, field strength and flux.

In the magnetism section there are also many interesting examples such as magnetic bubbles and various types of motors and transformers, but the author's touch with the theory of current electricity is not quite so sure as with electrostatics. Ohm's law seems to be missing and with it the link between potential difference and current, although this is assumed in the interesting example of the unfortunate cow caught in a thunderstorm.

Magnetic materials are clearly described but the author misses the opportunity of pointing out the duality between electric and magnetic dipoles. As a result there is no explanation of the manner in which iron acts as a conductor of flux. Another difficulty is caused by treating the magnetic field of steady currents as being identical with the field of single moving charges.

Oliver Heaviside devised his "rational current element" to overcome this difficulty and it is a pity that the author does not use it. A more serious matter arises in the discussion of Faraday's law where the author blurs the distinction between potential difference and electromotive force. This will cause great trouble to students who seek to understand energy processes in electrical machines and radio antennae.

A feature of the book is its unusual arrangement. The applications and the theory are discussed separately, the latter being arranged in a set of "tasks" with specified "objectives". On the positive side, this enables the book to be used in private study without the aid of a teacher; in any case students will benefit greatly from working through these tasks. However, if there is a teacher he will feel rather like an uninvited guest.

The "objectives" stated before the "tasks" are written in an extremely tight style. They certainly provide a useful aide-memoire, but few students will derive profit from them. Indeed there is in the book a strange contrast between the author's obvious enthusiasm and a method of teaching which suggests that the subject is closed and completely defined. The foothills of the unexplored mountain ranges occasionally are transformed into a row of semi-detached houses in suburbia. The author seems to have a severely reductionist view of human experience. Thus St-Elmo's fire is *no more than* (my italics) a corona discharge and the use of the covenant is reduced to a large capacitor carried about by nomads wearing prototype CEGB metalized suits. Neither Michael Faraday nor James Clerk Maxwell would have been happy with such a view. There is after all more to life than electromagnetism.

The book is a pleasure to handle and to read, having a clear typeface and many well-drawn diagrams. It should be in the library of every teacher of the subject both at undergraduate level and in the sixth forms of schools.

Percy Hammond

Percy Hammond is professor of electrical power engineering at the University of Southampton.

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Microwave engineering

Microwaves
by K. C. Gupta
Wiley Eastern, £3.50
ISBN 0 85226 346 5

Microwave Devices and Circuits
by Samuel Y. Liao
Prentice-Hall, £18.50
ISBN 0 13 581207 0

Microwave engineering was first recognized as a separate branch of communications engineering because of the explosive growth of the specialized techniques used in wartime radar. In the middle of the 1930s, electrical engineering students were exposed to the ideas of Maxwellian electromagnetic theory only to a very small extent. One can say that, at the end of the university courses, Maxwell's equations were taken out of the cupboard, dusted and exposed to the (reverent) gaze of the undergraduates and then carefully put back into store. Few people thought of actually using them.

However, a few pioneers in both industrial laboratories and in universities did resurrect and extend some of the half-forgotten theoretical ideas of Maxwell's followers. At the Bell Telephone Laboratories, Southworth and Schelkunoff worked on the theory and applications of waveguides, in which electromagnetic energy is guided through hollow metal pipes, and on the theory of antennae, while Stratton at MIT was preparing to write his excellent *Electromagnetic Theory*. This appeared in 1940 and is still one of the best advanced treatments of the subject. Thus, the theoretical foundation for the study of electromagnetic energy propagation at very high frequencies were firmly established.

Shortly afterwards, new types of ultra-high frequency generator, the Heil tube and the two resonator klystron, were described in the open literature, and their advent substantially solved the problem of generating moderately large amounts of power at centimetric wavelengths. Magnetrons, which had long been known to be capable of oscillation at very short wavelengths, seemed, for the moment, to have taken a back seat but, in many laboratories in several countries, the essential steps in improving their operation by working them with very short pulses of high voltage were being investigated.

These streams of theoretical analysis, practical development of high-powered generators and the green-fingered electronic engineering needed to make reliable pulse circuits, converged to form the early basis of microwave engineering. Shortly after the end of the war, major advances were described in books and papers. The publication of this material undoubtedly reached its zenith in the form of the MIT Radiation Series, which was, of course, avowedly written to make the bulk of the war-time research freely available for anyone to use.

Soon afterwards, radar systems, the first major microwave communications were established. In these systems a microwave carrier frequency was used to transmit large numbers of telephone conversations or a small number of television channels. In most of the early equipment, existing telephone apparatus was used to solve the information problem. Each telephone channel was transposed in frequency from the audio base-band to a predetermined frequency slot, so that frequency space from audio frequencies up to a few megahertz was used. The resultant complex amplitude modulation signal was then used to frequency modulate the microwave oscillators located at the terminals of the link.

The microwave powers were of the order of one watt only, and therefore transmission was basically line of sight and the signals had to be boosted by repeaters usually at approximately 50km intervals. Thus a requirement arose for broad-band microwave *amplifiers* and was satisfied by the rapid development of helix circuit travelling-wave tubes. Thus, microwave communication links presented problems in combining the skills of those trained in radar with those of the very sophisticated systems engineers, who graduated from telephone transmission groups.

At the same time, radar was becoming much more sophisticated, especially since large numbers of stations were organized into large networks capable of providing information on the air space over whole continents. The development of the transistor gave the electronic engineers a new device which, fundamentally because of its low power consumption relative to that of the valve, allowed them much more freedom in circuit design, so that apparatus which was functionally very elaborate could be produced in elements which were light, did not consume very much power and were (relatively) robust. New radar systems including "chirp" radars were developed.

Since that time, in the mid-1950s, the transistor has been replaced by the integrated circuit, in which many active semiconductor elements are formed on a single piece of material. Integrated circuits are, in turn, becoming more and more elaborate as we progress through large-scale integration (LSI) to a very large scale integration (VLSI). The best way to use these devices is not to connect them into circuits which function in the ways that valve and transistor circuits originally worked, that is, by changing the amplitude of time varying signals. Instead, it has been found better to use the semiconductor devices as controlled switches and to operate on the basis of using pulses, whenever possible, to convey the information. Such systems are now termed "digital systems" and they hark back to a combination of electronically generated pulses with the Boolean logic of the old-time telephone switching engineer—although, of course, there is a very considerable shortening of the time duration of the pulses used.

In the same period, the development of special semiconductor devices for use as microwave generators and amplifiers has been somewhat less spectacular than the developments already mentioned. Semiconductor oscillators are useful only in low-powered systems and as laboratory sources, and also as detectors and modulators at low power. The high-power systems used in long-range radars and in satellite communications do not, as a matter of fact, operate perfectly happily in conjunction with some of the more elaborate semiconductor devices; and there are interesting problems still to be solved.

It should be noted that extremely high microwave powers are being considered for use in conjunction with the plasma fusion programme. It has been found, in earlier members of the "Tokamak" device family, that the injection of large amounts of millimetre radiation just before the main pulse is initiated, improves the temperature and confinement times of the machine, bringing it closer to the critical point. A new type of millimetre wave generator, which combines some features of the magnetron with travelling-wave ideas, and which is capable of giving high efficiencies is being very actively studied in several countries. It is early to make a forecast but, if the project is successful, this need for high power might well dominate all the others.

Finally, the growing commercial exploitation of microwaves in two fields, those of domestic cooking and industrial heating, must be familiar to everyone.

The books which have prompted these thoughts are, then, in the second rather than fourth generation of books on the subject. What ought one to expect of a good modern textbook in the field? It seems to me that a prime necessity is material on the systems aspects of microwaves, partly because these provide the reason for studying the subject at all and also because of interesting theoretical and experimental problems arise which have not yet been fully answered. Then, there should be the now conventional Maxwellian, electrodynamic theory, transmission-line, wave-guide, resonant cavities and antennae. This treatment could emphasize those areas—for example the calculation of loss—for which the theory is either inadequate or useless and must be supplemented by experiment. This leads to a thorough treatment of measurement techniques, especially those which relate to wide frequency bands, to actual characteristics of devices both solid state and thermionic—important but it is not necessary to cover details of device design—and but by no means least, a thorough treatment of pulse generation and shaping both at low power and at power levels is vital.

Neither book satisfies these criteria at all well—neither treats the systems aspects in more than a cursory way, and both try to discuss device design while failing to go much that is useful about the device characteristics. Also, neither book discusses pulse circuits. Both examine electrodynamics fairly well adequately.

On the whole, I prefer Gupta's book. It is quite short and does go a little bit about microwave bands and, without details, some system considerations. The longish chapter on "Generation of microwaves by vacuum tubes" is complete out-of-date and represents the case of treatment given 30 years ago. Gupta discusses those topics which he does include rather well. The mathematics is direct without being. At a rather lower level, this text would be helpful to technicians in developing countries, and the government of India deserves a measure of praise for promoting it. There are many problems at the end of each chapter and these test the understanding of the material presented in an adequate manner.

Liao's work is longer and more comprehensive. It is also set in a better printed in a more agreeable typeface. It starts off with plane waves, waveguides and microwave components, proceeds through tubes and solid-state devices to microstrip and microwave integrated circuits. A novel feature is a description of microwave sources and shielding from microwaves. The final chapter deals with measurements.

Dr Liao has published papers on the microwave attenuation of thin metal films on plastic substrates and the extensive review he has done work rates in the first chapter find inappropriate. Each chapter ends with a summary of the important equations, and a set of problems is given at the end of the book. The chapter on noise contains more about characterization and availability than is given by Gupta but on the theoretical side it is equally dated.

There is a section on crystal detector operation which is misleading. The curves in Fig. 5.9 (*sic*) do not give the current mentioned in the text, and the author seems to have mixed up the terms rectification (being the earth or zero potential) with the complementary respect to the cathode potential. The next two figures contain the same miss all the points. Another serious defect is that while a description of the (never used) backward wave *amplifier* is included, the backward wave *oscillator* is left out. But my main and basic criticism of this book is that one could read carefully and emerge from the experience without a clue as to what was really all about.

In all technically advanced countries it is beginning to be realized that the computer revolution in education has gone too far, that too large a proportion of engineering graduates suffer from the erroneous belief that all problems can be solved on the computer and that measurements are unnecessary. As a reaction to this realization, courses are being set up and already a few forward-looking universities have introduced specialized courses in laboratory engineering. Such courses will be textbooks which deal with the actual situation. Gupta would deserve betas for effort, but much more.

A. H. Cook

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BOOKS

Harnessing the sun

Solar Engineering of Thermal Processes
by John A. Duffie and William A. Beckman
Wiley, £13.80
ISBN 0 471 05066 0

What Solar Energy Can Do For You
by Ronald C. Denney
Muller, £6.95
ISBN 0 584 10436 7

The names Duffie and Beckman have been synonymous with quality and excellence in solar thermal analysis and modelling since the publication of their first major work, *Solar Energy Thermal Processes* (Wiley, 1974), over six years ago. Since then the subject has expanded so rapidly that the authors found that what started out to be a second edition of the 1974 book quickly grew into a new work "with new analysis and design tools, new insights into solar process operation, new industrial developments, and new ideas on how solar energy can be used".

The result has been that this new work is substantially broader in scope and more detailed than the earlier one. There are almost twice as many pages (752 compared with 386) and over 450 solar research workers mentioned, compared with less than 200 in 1974. With comparatively few non-Americans mentioned in the text it is pleasing to note that the pioneering work in solar radiation studies carried out by the late Professor Harold Heywood at the Woolwich Polytechnic in the 1950s and 1960s is still acknowledged. Throughout the work the authors have aimed to provide both a reference book and text, with an emphasis on quantitative methods for estimating solar process performance. There are two main sections in the book. The first deals comprehensively with the basic theoretical background while the second discusses specific applications.

The first two chapters provide a detailed treatment of solar radiation and its measurement and include methods of handling the available data. Chapters on selected topics in heat transfer, the radiation characteristics of opaque materials and radiation transmission through covers and absorption by collectors lead into three chapters dealing with all types of both flat plate and concentrating collector. The next chapter on energy storage, includes the modelling of both liquid systems. This chapter concludes with a section on chemical energy storage.

The tenth chapter introduces the concept of system simulation (numerical experiments to give the same kind of thermal performance information as can physical experiments). It also includes a list of the library components of the famous TRNSYS solar process simulation programme. The final chapter in the first main section looks at solar process economics and includes methods for evaluating and optimizing solar energy systems and basic life cycle costing methods (present value analysis).

The second main section commences with a set of chapters on thermal energy applications, including the use of solar heating for domestic or institutional hot water. The brief coverage of swimming pool heating may be slightly disappointing to some readers as this is probably the most cost effective solar application in the United Kingdom. Applications dealing with the heating of buildings are based on North American experience. Design methods for solar heating systems are classified into two main categories—the hour by hour "TRNSYS" method and the f-chart method. The latter method is useful where the expense of a full simulation cannot be justified and is dealt with in some detail in the text.

All the main concepts which have been developed for passive solar heating in buildings are discussed in a separate chapter, with examples on direct gain windows and collector storage walls, including the resistance network design method. Solar greenhouses are briefly mentioned with a possible design approach based on direct gain systems. The chapter concludes with a useful guide to the general literature currently available on all types of passive system. Solar cooling for refrigeration and food preservation and for space cooling in buildings is given a thorough treatment, with a clear description of absorption cooling followed by sections on combined heating and cooling and a simulation study on solar air conditioning.

Methods for carrying out process simulations described in earlier chapters can be used with most industrial applications. The concept of utilizability (the fraction of incident solar radiation that can be converted to useful heat by a collector under certain conditions) is introduced in a chapter which also describes methods for systems which are beyond the scope of the f-chart method. The final chapters deal with "Conversion to Mechanical Energy" and "Operative Process and Salt-gradient Ponds". These topics are not covered in such detail as most of the earlier work, but it would be unreasonable to expect that all topics could be given a uniform coverage, given the very rapid developments of the past few years.

A valuable supplement to the main text is a set of 151 problems, given in the first appendix, which cover the main subject areas. A separate solution manual for the problems is available from the authors. The main equations for the solution of the problems have also been programmed for hand calculators. Other appendices include a table of nomenclature and a list of symbols, conversion factors, properties of materials used in solar applications, present worth factors, meteorological data for North America, and useful author and subject indexes.

This book will take its place as a leading basic reference source for the analysis of all types of solar thermal process. Libraries already holding *Solar Energy Thermal Processes* must be prepared for a very considerable demand for this new work. Those involved in both undergraduate and postgraduate courses will find it an invaluable work which cannot be too highly commended.

Dr Denney's book is in quite a different category. The nominal 106 pages include 20 pages of introductory material—title pages, lists of contents, figures and plates interspersed with blank pages—and there are some 20 pages taken up with photographs and diagrams. This leaves about 60 pages of continuous writing in the main text. The material is divided into six chapters and follows a well trodden path, with a short historical introduction followed by an equally short chapter on "The Sun as an Energy Source". The longest chapter, "Using Solar Energy", concentrates on applications in space and water heating, illustrated with photographs of various installations and a few elementary diagrams. The book concludes with three brief chapters on the large scale use of solar energy, electricity from solar energy, and the future role of solar energy.

The overall impression gained from this somewhat superficial work is disappointing. Much of the material has been published elsewhere, but there are no references quoted in the text. There is no index or glossary. Most conversion factors are approximate. Although the author had hoped "... to increase public awareness of the subject, of its potential benefits and of its suitability for domestic application", there are very many books already available that do a far better job more economically.

J. C. McVeigh

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Basic circuit theory

Circuit Analysis
by John R. O'Malley
Prentice-Hall, £13.60
ISBN 0 13 133827 7

Circuit analysis is traditionally a rather dry mathematical subject which can be unpopular with students, yet it is the unifying basis for all electrical and electronic engineering. It is vital, therefore, that any book should show the subject to be lively, interesting, and above all useful in practice.

Ten years ago with the widespread use of computation, the trend was towards the combined teaching of basic circuit theory and Fortran programming practice. This resulted in a number of needlessly difficult books in which the Fortran was overdone. However, there are several excellent textbooks which embody the computational approach. Even so, they are books of the 1970s based on Fortran. Today, time-shared computers and powerful microcomputers use BASIC, now widely adopted as the first-year undergraduate programming language. Pascal and better forms of BASIC are coming, and Fortran is being less used in teaching. All of these trends influence the choice of a textbook for circuit theory and the development of courses in the 1980s.

Professor O'Malley follows the transatlantic "big bang" approach to basic circuit theory and has produced yet another massive first-year to second-year undergraduate text. In 21 chapters the author exhaustively covers his subject, gives numerous examples, and sets hundreds of problems. The approach is that of an engineer rather than that of a mathematician; the resulting book is readable and soundly based on electronic circuit practice. It is a great pity that the only concession to the computational approach is a chapter on engineering current circuit analysis using the Fortran program PCAP. Throughout the remaining 20 chapters, computer analysis is hardly, if at all, mentioned.

Use of a complex Fortran program such as PCAP provides little incentive to a student to investigate and explore the properties of the numerous practical circuits arising from laboratory and tutorial work throughout the engineering course. The whole process of analysis in Fortran is too remote to be applied merely out of interest and the urge to investigate is stifled. Although students must be able to analyse simple circuits by hand methods in order to achieve understanding, they must also have immediate access to computer analysis. Furthermore the programs themselves must be based directly on the analysis course and be accessible for investigation and modification.

One subject in which computation can contribute an entirely new and thoroughly practical approach to the application of theory, is two-port analysis. A student reading chapter 19 could not possibly be expected to analyse a simple two-port network let alone see any advantage or reason for using two-port analysis. The treatment covers only Z, Y and H parameters so that the use of A parameters for a ladder network remains a complete mystery. Although parameter conversion is covered, there is no table of conversions and no relationship set between the use of the various parameters and the corresponding network connexions. In most textbooks, these points are treated so that any two-port network can be analysed. Even then it is not usually apparent that two-port analysis is easily adapted for computation using wiring operators to overcome the problem of describing the circuit to the computer. By ignoring the computational aspect, Professor O'Malley has rendered two-port analysis utterly incomprehensible.

Circuit Analysis is a book conceived and written in the 1970s. On the whole it is a readable and competent book, but it is dated in approach and does not meet the needs of the 1980s.

P. R. Adby

P. R. Adby is lecturer in electrical engineering at King's College, London.

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Wiley, £21.75
ISBN 0 471 03375 8

Pipeline engineering is a very large industry indeed. The length of pipes of all types laid a year throughout the world is of the same order of magnitude as its circumference. The supply of water, for example, and its subsequent removal and re-purification is one of the most important functions of the civil engineer. The very large quantities of water involved require equipment of very large size, and the distribution systems needed to deliver it to the many destinations where it is required make the design and construction of such a water supply system one of the most complex and expensive projects that a society ever undertakes. Remembering that an additional network of sewerage pipes is needed to take away the used dirty water, one begins to understand why such systems exist only in the major developed societies and are so very rarely found in third world cities.

Man's pre-occupation with being lazy has caused him to become the most work-oriented animal on the planet and this has recently led him into one of the biggest love affairs with pipe lining ever. It has produced one of the greatest challenges that the civil engineer has ever been called upon to meet. I of course refer to the energy resources of gas and oil and their exploitation in the North Sea.

The main categories of pipeline engineering: water supply, sewerage, irrigation, oil transportation, and gas gathering and distribution all demand an understanding of the fluid mechanics of the problem. Getting the diameter right is of great importance as it affects capital and operating costs in a most direct manner. Until recently, texts devoted exclusively to pipe flow have been almost non-existent; the subject has been treated as one of many in fairly generalized text-books.

Two high quality texts devoted solely to pipe lining are most welcome. Both books have an introductory chapter in which the basic fluid mechanics associated with the main topic is presented. The Ward-Smith book provides a much more detailed treatment than does the Benedict book, and Benedict assumes more previous knowledge than does Ward-Smith. The subject of the dynamics of gas flow in pipelines attracts considerable attention from both writers, and their material, though different, is well presented. Both writers deal with one-dimensional gas dynamics, the isentropic flow process, the isothermal flow process, the Fanno flow process and the Rayleigh flow process. Both offer material on diffusers, sudden enlargements and contractions.

The treatment of boundary layer theory differs. Benedict presents boundary layer theory in its standard form before applying it to the circumstance of pipe flow, whereas Ward-Smith applies it to pipe flow directly. If anything, Ward-Smith's approach on this topic is more detailed. Both writers cover topics such as bends, branches, tees and nozzles, but at very different levels of detail.

Although the books cover the core material of the subject in a most satisfactory manner, in all other aspects they are surprisingly different. *Fundamentals of Fluid Flow* is by an American author. Over the years we have seen many books come from the United States and many of them have been of very high standard. Benedict's book is one more in this tradition. It is very well written in a most readable style. The presentation of the theoretical material is honestly and meticulously done but does assume a rather greater previous knowledge of fluid mechanics than does the Ward-Smith book. This is not, however, a really significant criticism. For European readers, the continuation of the Imperial system of units in the United States produces either a feeling of nostalgia if they are over 40 or one of irritation if they are under that age. Life in America will certainly be easier for the engineer when the letters SI assume the same significance as they have here.

Both Benedict and Ward-Smith offer "state of the art" presentations of methods of analysing gas and liquid flows in pipelines. Benedict, however, does offer one short chapter on "flashing"—a circumstance in which a liquid below its vapour pressure flashes into gas—but I wish that this chapter was considerably larger and at least gave an introduction to two-phase flow theory. Ward-Smith's book does not deal with this topic at all.

Neither book deals with the significant problem of unsteady flow, a topic that certainly deserves a mention as pressure transients are the main cause of pipeline failure. Another criticism which can be levelled against both books is that their treatment of pipe networks is superficial. Books of such high standard should deal with this topic with more authority. The state of the art is far beyond the relatively trivial treatment it receives in both of them. Four methods of computer analysis of pipe networks deserve mention in this context, yet none of them is described.

Benedict's book describes some topics which Ward-Smith omits, for example, effect of additives (polyox ?) on fluid friction, flow measurements in pipes, pressure measurements, skin friction measurement, boundary layer measurements and laser doppler velocimetry. On the contrary, Ward-Smith includes material which Benedict either omits or deals with more trivially, for example, flows with swirl, the vortex tube, gauzes and baffles, flow straighteners, pumps and fans, cavitation in pumps. Compressors are not dealt with by either author and the material on fans does not deal with stalling of the fan blading and consequent surging in the pipework—an important problem.

Both authors naturally tend to quote the literature of their own country which gives somewhat different flavours to the two books, and this makes such a difference as to justify the study of both of them. Benedict, however, would be well advised to improve his index at the next printing.

Benedict's book *Fundamentals of Pipe Flow* has 532 pages and costs £21.75, whereas Ward-Smith's *Internal Fluid Flow* has 564 pages and costs £36.00. Such prices for large hardback texts of this calibre are not unusual nowadays, but they are beyond the pockets of undergraduates. These books are therefore for libraries and for the many industrial engineers involved in this type of work. Postgraduate students will also find them useful. It is not possible to recommend one book more than the other, as they complement each other in so many ways, so prospective readers are strongly recommended to study both of them. The difference in style is that of the mathematician (Ward-Smith) as opposed to the engineer (Benedict).

J. A. Fox

J. A. Fox is reader in civil engineering at the University of Leeds.

Portrait of the architect and civil engineer, Thomas Telford: taken from Thomas Telford: engineer, proceedings of a seminar held under the auspices of the Ironbridge Gorge Museum Trust and Telford Development Corporation in April, 1979. The aim of the book, edited by Alastair Penfold, is to provide a summary of current research on the technical and historical aspects of Telford's works. Papers are included on Telford's early years in Shropshire, the Shropshire and Norwich canals, the Holyhead Road and the evolution of the Menai Bridge design; and Professor A. W. Skempton discusses the bridge that never was—the 600ft cast iron arch proposed for London Bridge. The book is available through Thomas Telford Ltd, price £9.00 (inclusive of postage).

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Mechanical properties of alloys

Mechanisms in Particle-hardened Alloys
by J. W. Martin
Cambridge University Press, £21.00 and £6.95
ISBN 0 521 22623 6 and 29580 7

The latest addition in the successful series providing detailed reviews of important topics in materials science, this book maintains the high standards of clarity set by previous contributions to the series (although it should be noted that one of these was jointly written by the author of the present book and by the author of the review). The present book discusses the most important feature of the microstructure of metals, a dispersion of second-phase particles.

Dr Martin starts by pointing out that there are three distinct classes of dispersion. The first class is the finest dispersion produced to give precipitation-hardening alloys, these particles being typically 10 nm in diameter. The second class is the coarsest particles larger than one to five micrometres, which are accidents of the production process. These large particles are almost always harmful and great effort and expense is involved in trying to reduce their occurrence.

The final class of particle which has an intermediate size of about 0.1 micrometre, is commonly found in composite alloys but has been given little attention to research until recently. This intermediate class of particle, typified by the manganese-rich particles in many grades of aluminium alloys, seems to have at least two important roles. The first of these is in the control of grain size during mechanical processing, has been recognized for a long time but the other role which Dr Martin shows to be very important, is that of making plastic strain much more uniform than it would be without the intermediate particles. The subject of the book, which is concerned with the localisation of strain, particularly in alloys showing low rates of work hardening, is of great importance to many mechanical properties. The identification of the vital role of strain localization by the author makes this book more than just a review of previously published ideas, valuable though that is, and turns it into a source of new ideas for understanding materials.

The subjects covered in the book include the role of particles in a wide range of important mechanical properties. These include yield stress; work hardening, ductility, fracture toughness, fatigue and creep resistance. In all cases, as suggested by the title, attention is focused on the detailed mechanisms involving the particles. This is achieved by discussion of the basic processes in the text with reference to the original literature for the more complex analysis. The extensive reference list provided for each chapter is a particularly valuable feature of the book.

Although the book is a most readable account of the subject, the overall picture is not obscured and the reader's interest is maintained throughout by careful choice of those examples of his achievements which are presented, emphasis being placed on those examples of his work which may be seen today. The many illustrations and photographs enhance the text, a sense of continuity of the past with the present being particularly well achieved with the photographs of modern trains set in Brunel's original environment.

The book begins with that most useful inclusion in a work of this nature, namely a chronicle of events which extends for some years before and after Brunel's life. The first chapter is devoted to "The Brunels", for no book on Isambard Kingdom Brunel would be complete without reference to his father Marc Isambard Brunel, who inspired and encouraged his son in so many ways. This opening chapter is mainly concerned with portraying the different personalities of father and son and with a brief and interesting account of their lives and work. The realization that "Kingdom was the maiden name of Isambard's mother is typical of the personal interest to be obtained from this chapter, which also includes an account of the prefabricated hospital he designed at Renkioi on the Dardanelles for use during the Crimean War, as well as how his talents were passed on to his children.

It is probably fair to say that Brunel is best known for his association with the Great Western Railway, and the majority of the book is concerned with the various aspects of this venture. In 1824 a proposal was made to provide a rail link between London and Bristol, and nine years later, at the age of 27, Brunel was appointed as engineer. The book first sets the scene prior to the locomotive, and then describes the route chosen from London to Bristol showing how economies in energy could be and were made by the maintenance of very small gradients. This, of course, required the construction of embankments and cuttings, bridges and tunnels, the design and construction of which were all later encompassed by Brunel. Due consideration is given to the decision made by him to ignore the precedent set by other railway companies and opt for the 7ft 0in broad gauge rather than the 4ft 8½in standard gauge now universally used in Britain. The design and construction of track and the development of signalling techniques are also described.

The Great Western Railway was extended in stages from London to Penzance and the book then takes us on a journey from Paddington to Penzance, describing the various engineering works required along the route. Some of the sections described lack much engineering interest and these tend to have been given a rather short and perfunctory treatment. The route from Plymouth to Penzance incorporated the construction of a great number of timber viaducts, which sadly are not now to be seen due to deterioration and subsequent demolition. These viaducts are, however, described briefly with diagrams and photographs of some of the masonry piers that are still to be observed. Arguably, Brunel's timber designs were the finest of his age, and it is regrettable that the wisdom of many such works have come to an end.

A chapter on Brunel as a bridge engineer then follows. The approach here is concise, the action of the main classes of bridge that Brunel used being first neatly expressed before four of his bridges are discussed from a technical viewpoint. The first two are railway bridges crossing the Thames, the one at Windsor being an iron bowstring girder and that at Maidenhead being of brick arch form. The remaining two are naturally enough the Clifton Suspension Bridge and the Royal Albert Bridge at Saltash, both of which are given the detailed and enthusiastic treatment which they merit.

Continuing with the railway, the development of Swindon is then described, particular attention being paid to the architecturally pleasing railway village. A number of Brunel's station buildings are then discussed. Again, it is sad that some of his minor stations are no longer standing, but the book contains descriptions and illustrations of the two magnificent architectural works of Paddington and Bristol Temple Meads and also of some of the town-upon-bridge buildings, in particular the large station at Bath and the smaller ones at Culham and Mortimer.

An interesting chapter devoted to the railway's broad gauge locomotives, the ultimate success of which was really due to Daniel Gooch, the locomotive engineer, precedes an account of Brunel's work in tunnelling. Brunel's first real encounter with major civil engineering works was in this field, when at the age of 19 he became resident engineer on his father's Thames tunnel project. The book concentrates on two of Brunel's best known tunnels, the Thames tunnel and the tunnel for the Great Western Railway at Box, which is almost 10,000 feet long.

Brunel also made tremendous contributions to ship design especially with regard to the economies brought about by increases in ship size. His three steamships, *Great Western*, *Great Britain* and *Great Eastern*, are superb examples of his powers of innovation; the final chapter examines the design, construction and motive power of these three massive vessels.

The book concludes with a gazetteer to encourage the reader to examine the works still remaining at first hand and to visit various pertinent locations so that a greater appreciation of Brunel's flair and imagination can be obtained. This is followed by a brief outline of the technical knowledge available to Brunel.

The layout of the book is neat, concise and systematic, the author having taken great care to present his material in a clear and interesting manner. Although in the description of the railways, some confusion may have been avoided by the use of the term "standard gauge" rather than "narrow gauge", which now describes a different track from that used on main rail routes in this country, the book is an exceptionally readable account of the works of an engineer whose vitality and enthusiasm have rarely been equalled.

D. J. Just

D. J. Just is lecturer in civil engineering at the University of Aston.

BOOKS

The legacy of Brunel

Brunel's Britain
by Derrick Beckett
David & Charles, £8.50
ISBN 0 7153 7973 9

There is no doubt that Isambard Kingdom Brunel is one of the most significant figures in the history of engineering, and it is a tribute to him that there has been an increasing interest in his work over the past few years. Brunel died at the early age of 53, but during this short lifespan he not only profoundly changed or helped to change the face of Britain, but also left some of the finest examples of engineering and architecture of the nineteenth century.

This absorbing book is an appraisal of Brunel's work, systematically presenting and describing the various forms of engineering—civil, structural and mechanical—in which he was engaged. The book is written in a style that may be appreciated and enjoyed by readers of widely differing technical expertise. Although there is enough detail to make the subject comprehensive, the overall picture is not obscured and the reader's interest is maintained throughout by careful choice of those examples of his achievements which are presented, emphasis being placed on those examples of his work which may be seen today. The many illustrations and photographs enhance the text, a sense of continuity of the past with the present being particularly well achieved with the photographs of modern trains set in Brunel's original environment.

J. C. Horsley's portrait of Brunel in the National Portrait Gallery.

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Brunel also made tremendous

Power systems

An Introduction to Electric Power Systems
by J. A. Harrison
Longman, £3.50
ISBN 0 582 30503 9

Electric Energy: its generation, transmission and use
by E. R. Laithwaite and L. L. Freris
McGraw-Hill, £9.95
ISBN 0 07 084109 8

Electrical power system engineering is an important subject which forms a part of all undergraduate courses in electrical engineering. There are relatively few student texts available and so these two books will make a welcome addition to the shelves of any university or college library. The modern electrical power system is the most complex system in all of physical science. It is the most difficult to analyse, to design and to control; and because of the sheer quantity of text required no single book can deal thoroughly with all the aspects of the subject. Both these books start with first principles and are introductory, although the first is rather more so than the second.

Dr Tony Harrison, a lecturer in electrical engineering at Liverpool University, has, it would seem, compiled an unpretentious set of lecture notes; and there is nothing wrong with that. His work is a straightforward second-year undergraduate text. He explains the advantages of three-phase circuits and the electrical power grid and develops three-phase circuits with different connections. The main components of a power system: generators, transformers, lines and cables, are subjected to an elementary treatment and these are related to the system as a whole. The important "per unit" method of calculation is explained well. The concepts of real and reactive power flow are introduced and the problems of controlling these are dealt with briefly. His section on fault analysis makes no reference to sequence networks but is adequate for an introductory text. The final 20 pages are devoted to power stations, types of fuel sources, load-time curves and pumped storage schemes.

The author has written this short book (94 pages) clearly and concisely and he has thoughtfully included many worked examples and exercise problems. His neglect of two of the three pillars of power system engineering: stability and load flow (the third pillar, fault analysis, was introduced) is, however, rather disappointing. In view of this, I wonder whether the last quarter of the book, which contains no more than can be easily gleaned through an acquaintance with a lighter technical journals, should not have been used to remedy this deficiency.

If Harrison's book is like chalk—plain and simple, then the book by Laithwaite and Freris is like cheese—tasty and interesting. Professor Eric Laithwaite has the chair in heavy electrical engineering at Imperial College and Dr Leon Freris is a reader in the same department. Their work is more voluminous (365 pages) than Harrison's; and their combining of an introduction to power systems with an introduction to electrical machinery is a most unusual approach, possibly unique. The book starts, logically, with energy sources and also refers to the controversy over the nuclear power question. In general, engineers do not get involved in the social implications of what they design, but perhaps they should. Several of the illustrations here are quite excellent.

The second chapter asks and answers some rather simple questions. Why alternating rather than direct current? Why a sine wave? Why three phase? One may wonder why a reader, so well versed in the subject that he is able to follow the explanations, should wish to read the answers to these apparently simple questions; and I wonder that too. To be fair, the authors may be trying here to establish an approach to the treatment of problems rather than to give straightforward answers to the specific questions posed. They advocate a *reductio ad absurdum* approach to containing a problem—consider the extremes of a situation in order to understand the practical limitations.

Consider this example of two extremes in transformer design: a fat iron core with two or three winding turns and a spindly thread of a core with two or three million turns! Such an aid to explanations may appeal to the bright undergraduate but not all readers will be stimulated or even amused by the approach. Laithwaite's inimitable writing style is unmistakable in many other parts of the book and this contrasts with the more conventional writing of his co-author.

The next chapter is also rather a surprise. The reader is taken from the strange world of Thomas Young and Max Planck (a wave is a particle is a wave) by way of Einstein's special theory of relativity through to electric currents and magnetic circuits. This work is nothing if not original.

The core of the book begins on page 105 where the transfer of energy in a power system is first considered: generators and loads, active and reactive power, control of complex power. The explanation of generation is preceded by a treatment of Laithwaite's goodness factor for an electrical machine, and some detail of winding methods is included. Armature reaction and synchronous impedance receive adequate treatment but transient and subtransient concepts are not included.

The chapter on transformers and transmission lines is concerned more with principles than with a full treatment and would be appropriate for second-year undergraduates. The chapter on utilization, dealing with synchronous and asynchronous motors (both three phase and single phase) contains some well-written material, but it is a pity that less than 60 pages are set aside for it.

The power system as an entity is the subject of chapter seven; and there is more here on power and voltage control. Both Gauss-Seidal and Newton-Raphson methods of load flow analysis are presented with detailed, worked examples. The different aspects of security analysis are also covered but only briefly.

The penultimate chapter is concerned with power system operation, and the problems of load forecasting, unit commitment and spinning reserve are mentioned. The optimum economic load despatching problem is, however, dealt with in some detail and would be suitable for final honours or postgraduate students. The final chapter on future prospects is light reading and includes wind and wave power and new types of electrical machines.

I find it rather difficult to identify the target readership for this book. The electrical engineering graduate will know much of the fundamental material contained in it yet the material towards the end of the book requires graduate level mathematics in order to follow the complications of load flow and optimum economic load despatching. Perhaps the physics graduate who has taken employment in the power industry would match the target most closely but the lack of a serious section on fault analysis and transient analysis means that the book needs to be complemented even for such an unusual reader.

There is value, however, in a book that can be taken from the shelf from time to time in order to brush up on a particular aspect and much of the text meets this requirement. Short lists of references are given at the end of each chapter but these are, in general, insufficient to enable a detailed assessment of the state of the art of a particular subject to be made without undertaking the usual literature survey.

To return to my earlier reference to chalk and cheese it occurs to me that the latter is quite good to eat especially in small pieces; but when one is concerned with introducing a complex subject such as power systems—especially to a class of undergraduates—then a well constructed stick of chalk is almost invaluable.

J. V. H. Sanderson

J. V. H. Sanderson is lecturer in electrical engineering at the University of Manchester Institute of Science and Technology.

Two collections of papers investigating the possible uses of the computer in assisting the processes of teaching and learning have recently been published. *Computer Assisted Learning: scope, progress and limits*, edited by R. Lewis and D. D. Tagg and published by North-Holland at £29.25, contains the proceedings of a working conference held at Roehampton, London, in September, 1979. The participants were concerned with all aspects of CAL and methods for its implementation in most countries. *Computer Assisted Learning in Physics Education*, edited by Alfred Bork and published by Pergamon at £10.50, has a narrower brief. The papers by a predominantly American team were especially written for the book.

NOTICE BOARD

Noticeboard is compiled by Patricia Santinelli and Mila Goldie

Forthcoming events

A seminar on advertising education in the UK and USA—a comparative study, sponsored by the English Speaking Union is to be held in London on March 11. A leading American professor has been invited to make a presentation and Professor Michael Baker of Strathclyde University will cover the UK scene. Further details can be obtained from the English Speaking Union on 01-629 5920.

Newcastle upon Tyne Polytechnic and the University of Florida are running a joint seminar on "Faculty (Staff) Development and Evaluation", to be held at Coach Lane campus, at the polytechnic, from July 20 to 24. The seminar will be entirely materials-based and each group will share and work on their materials or policy papers. Fee: £86. Early inquiry and registration is advised. Further details from Chris de Winter Hebron, faculty of humanities, Newcastle upon Tyne polytechnic.

* * *

"The Modern Language Teacher in Higher Education", the ninth annual Greynog Anglo-French conference, is to be held from March 6 to 8 in the Greynog Hall, Newton, Powys. The conference will explore this theme in the context of an examination of the university as an institution and of the relationships and modes of communication within it. Further details from Dr Colin Evans, French Department, University College, PO Box 78, Cardiff CF1 1XL.

Recent publications

Six 30 minute radio programmes sponsored by the Equal Opportunities Commission and made by working class women in Southampton for broadcast on BBC Radio Solent are now available on cassettes. This is an attempt to make the programmes which take a critical look at social services, marriage, crime, domestic violence, the media and equal opportunities, more widely available to other women for use as teaching materials on women's and general studies courses. (Further details from June Thompson, department of adult education, Southampton University, £5.00 including VAT and p & p).

* * *

The *Certified Accountants Education Trust 1981* course programme from March to September is now available. It includes 113 different titles and over 250 presentations in Central London at 55 regional venues. Topics covered are accounting and finance, auditing, management development and taxation. Copies available from the CAET.

British Catalogue of Audio-Visual Materials 1980 Supplement, published by the British Library, is a supplement to the first experimental edition of BCAVM which was published in 1979. The catalogue contains audio-visual materials available for purchase or hire in the UK. It lists about 2,300 items including slides, filmstrips, spoken-word and sound recordings, tape/slides, OHP educational kits and a variety of other materials (available from the British Library, Bibliographic Services Division, 2 Sheraton Street, London W1V 4BH.

Grants

Leicester

Pharmacology—Dr S. R. Nahorski and Dr D. J. Pallott—£33,642 from the MRC for research into catecholamines: their neural control and role in carotid body function.

UMIST, Manchester

Management Sciences—Professor Cary Cooper and Mrs Ann McGoldrick—£15,500 from the SSRC for a pilot study of voluntary early retirement.

Open University

Earth science—Dr C. Hawkesworth—£35,490 from the NERC for Nd and Sr isotope studies bearing on the evolution of the continental lithosphere beneath the Western United States and Southern Africa; Dr D. Blackburn—£2,120 from the United Kingdom Atomic Energy Authority for the purchase of additional equipment for use in the study of permeation of metals exposed to hydrogen and deuterium at low pressures; Professor J. Lowy and Dr F. R. Poulsen—£42,586 to cover a three-year period of research into "X-ray" diffraction studies of intact muscles at rest during contraction.

Welsh National School of Medicine

Orthodontics—Mr V. C. Shaw £30,254 from the DHSS in support of research into the effects of pf malocclusion and the effectiveness of orthodontic treatment.

Tenovus Institute—Dr Nicholson and Dr S. J. Gaskell £14,667 from the MRC in support of an analysis of tamoxifen in breast cancer using Gc-MS and related techniques.

Medical biochemistry—Dr A. K. Campbell £30,112 from the ARC in support of research into the role of intracellular calcium in the pathology of rheumatoid arthritis.

Restorative dentistry—Dr G. Stafford £36,500 from the SRC in support of a study of the behaviour of denture basis in function.

Diagnostic radiology and Community medicine—Professor K. T. Evans and Professor C. J. Roberts £115,714 from the DHSS in support of a national multi-centre study of diagnostic radiology.

Surgery—Professor L. E. Hughes—£21,409 from the CRC in support of a study of the pathology of radiologically prominent ducts and their significance in predicting breast cancer risk.

Pathology—Professor E. D. Williams—£10,565 from the CRC in support of further research into the clonal origin of experimental hepatic tumours.

Medicine—Dr A. M. McGregor—£33,532 from the MRC in support of research into the effects of treatment on the autoimmune response in thyroid disease.

Haematology—Dr R. D. Bulloch—£40,220 from the MRC in support of research into blood rheology in measurement, interpretation and relevance to the management of clinical problems; Professor A. L. Bloom and Dr I. K. Peake—£57,725 from the MRC in support of biochemical studies of factor VIII using monoclonal antibodies.

Medicine—Dr T. M. Hayes—£18,89 from Boehringer Ingelheim; Dr A. H. McGregor—£16,097 from the South Glamorgan Health Authority in support of the Welsh scheme for the development of Health and Social Research; Dr J. Peters—£12,894 from the SSRC in support of the Welsh Scheme for the Development of Health and Social Research.

Cardiology—Professor A. Henderson—£21,416 from the British Heart Foundation for a study of the relationship between adrenoceptor number in myocardium and circulating lipoprotein

Degrees

A significant breakthrough into Higher Degree work has been achieved by King Alfred's College, Winchester, which has just received approval from the Council for National Academic Awards for a masters degree in special education to start in September.

The three-year, part-time MEd in special education which is the first such award to be offered outside the university sector and gain CNAA validation, is seen by the college as a logical development within an integrated and comprehensive range of initial and in-service courses in special education.

The new course is intended primarily for teachers from ordinary and special schools, sixth form and further education colleges with defined responsibilities for children/students with mild, moderate and severe learning difficulties. It is expected to recruit 10 to 15 students twice a year with members drawn from a catchment area embracing the whole of Hampshire, the parts of Dorset, Wiltshire, Berkshire, Surrey, Sussex and the Isle of Wight.

In the development of the MEd programme the college has attached particular importance to making contact with universities both in the UK and overseas which are recognised as "centres of excellence" in the field of special education. It has established a link with the University of Calgary.

Open University programmes February 14 to February 20

Saturday February 14

7.40 Great Britain 1760-1900: sources and historiography / The Research Project (A401 : props 1 and 2).

BBC 2

9.05 Second Level Science: An introduction to the sciences in chemistry and biology / Energy and Power (S250 : prog 1).

9.30 Second Level Mathematics: Maths at Work (MST290 : prog 1).

9.55 Contemporary issues in education / Introduction to Education (E300 : prog 0).

10.10 Quality and Stability in the development of modern Europe / circa 1890 / 1970s Paris / Invasion (A300 : prog 1).

10.35* Energy in the Home — Cutting Your Losses (ST282 : prog 3).

11.35 Engineering Materials—**Miss Jude** (A307 : prog 18).

12.15 Control engineering / Control Systems (T291 : prog 12).

12.40 The Arts Programme / Music 1600-1933 / Paris: La Belle Epoque (A206 : prog 1).

13.05 Understanding space and time : Before the Big Bang / Relativity and the development of instruments and clocks / Introduction to the Organ (A304 : prog 0).

13.55 Music Pill.

RADIO 3 (VHF)

6.55 History of architecture and design 1750-1950 : Part 1 : Dualism (A263 : prog 1).

9.15 Music Pill.

9.15 Consumer decisions 1 : The County Show (T252 : prog 3) / The County Music Pill.

7.35 Music Pill.

RADIO 4 (VHF)

10.40 Materials under stress : Gossamer Wings (T101 : prog 2).

10.00 The digital computer : An introduction to the Course (TM241 : prog 1).

10.20 Music Pill.

10.55 Management and the school : The Good Old Days (E323 : prog 1).

11.25 Music Pill.

11.40 Science and belief : From Darwin to Copernicus : Introduction to the Problems (A818 : prog 0).

12.00 Alternative syllabuses for Northern Ireland and Parts of Scotland and Wales.

12.55 Materials under stress : Gossamer Wings (T101 : prog 2).

RADIO 4 (VHF)

Alternative syllabuses for parts of Scotland, Wales and Northern Ireland.

00.35 An ageing population : Philosophical Approaches to Gerontology (Y262 : prog 3).

Sunday February 15

BBC 1

7.40 Mathematics futures: design and technology / Wave of Success / The Future (M102 : prog 24).

8.05 The Radio Lesson Garden in the community : Am I Being Unrealistic? (P551 : prog 1).

BBC 2 2.30 to 9.45 am, programmes via BBC Wales)

7.40 Technology foundation course : Facts are not Enough (T101 : prog 1).

8.05 Social psychology / Psychosocial Dimensions / 1970s Paris / Invasion (A300 : prog 11).

8.30 Energy in the Home — Cutting Your Losses (ST282 : prog 3).

8.55 Making sense of society : Unemployment (D101 : prog 1).

9.20 An introduction to materials : X-ray diffraction (T251 : prog 1).

9.45 Technology for teachers : Case Studies / Project Method (P551 : prog 1).

10.10 An introduction to sociology : Sickness and Epidemics (AD206 : prog 1).

10.35 Childhood 5-10 : Getting Used to School (P552 : prog 1).

11.00* The Pre-School Child : Going Shopping (P551 : prog 2).

11.25* Mathematics in Action : Turning on the Power (T252 : prog 2).

11.50* Science and belief : From Darwin to Einstein (A818 : prog 1).

12.15 Health psychology : Creating the Right Conditions (D301 : prog 2).

12.40 Consumer decisions 1 : The County Show (T252 : prog 3) / The County Music Pill.

12.55 Archaeology : The Age of Oceanic Discovery (A322 : prog 1).

13.20 Materials under stress : Gossamer Wings (T101 : prog 2).

13.45 The digital computer : An introduction to the Course (TM241 : prog 1).

RADIO 3 (VHF)

7.55 History of architecture and design 1750-1950 : Part 1 : Dualism (A263 : prog 1).

8.15 Consumer decisions 1 : The County Show (T252 : prog 3) / The County Music Pill.

8.35 Music Pill.

RADIO 4 (VHF)

7.35* The first years of life : Baby Talk (P511 : prog 3).

RADIO 4 (VHF)

Except for Radio Ulster 7.15-8.55 am only, Radio Scotland 7.15-8.55 am only and Radio Cymru 7.15-7.55 am only.

7.15 Great Britain 1760-1900 : sources of historiography / The Three Themes and the Tools (A401 : prog 1).

7.35 Man's religious quest : Religion as a Universal Phenomenon (AD208 : prog 1).

7.55 An introduction to sociology : Sect and Society (D207 : prog 1).

8.15 Technology foundation course : Values (T101 : prog 1).

8.35* An ageing population : Philosophical Approaches to Gerontology (Y262 : prog 3).

RADIO 3 (VHF)

11.15 pm-00.55 am (except Radio Scotland 11.55 pm and 00.35 am only, Radio Cymru 11.55 pm-00.35 am only and Radio Ulster 00.35 am only)

11.15 Drama 1, "Silence": A Play by Harold Pinter (A307 : prog 1).

12.45 Music Pill.

12.55 Technology foundation course : Values (T101 : prog 1).

00.15* An introduction to sociology : Sect and Society (D207 : prog 1).

00.35* Science and belief : From Darwin to Copernicus : Introduction to the Course (A818 : prog 0).

Monday February 16

BBC 1

7.05* Mathematics foundation course : First Steps (M101 : prog 0).

7.30* Technology foundation course : Facts are Not Enough (T101 : prog 1).

BBC 2

8.40* Drama 1, "Rehearsal"—**Miss Julie** (A307 : prog 19).

7.30* Second Level Science : An introduction to the sciences in chemistry and biology (S250 : prog 0).

7.55 The Open University Chemistry Models in Chemistry (S364 : prog 3).

RADIO 3 (VHF)

11.15-00.55 am (except Radios Ulster, Scotland and Cymru 00.35 am only)

11.15 Drama 1, "Silence": Studying the Arts (A101 : prog 1).

12.45 Technology foundation course : Values (T101 : prog 1).

12.55 Consumer decisions 1 : The County Show (T252 : prog 3) / The County Music Pill.

00.15 Great Britain 1760-1900 : sources and historiography / The Three Themes and the Tools (A401 : prog 1).

00.35 Management and the school : The Good Old Days (E323 : prog 1).

RADIO 4 (VHF)

Except for Radio Ulster, Scotland, Wales and Cymru 00.35 am only.

00.35* An ageing population : Philosophical Approaches to Gerontology (Y262 : prog 3).

Music Pill.

Tuesday February 17

BBC 2

9.00* Reading development : Resisting Reading (E203 : prog 1).

7.05 Science foundation course : The Earth (with a Scientific Model (S100 : prog 1).

7.30* History of architecture and design 1750-1950 : Part 2 : Dualism at Work (A263 : prog 1).

7.55 Mathematics foundation course : Using Public Transport (M101 : prog 1).

10.15 Technology methods in education and training : Introduction (T551 : prog 1).

10.40 Music Pill.

RADIO 3 (VHF)

6.55 Renaissance in Scotland : Scotland's Future : Women (A263 : prog 2).

7.15 Science and belief : From Darwin to Einstein (A818 : prog 1).

7.35 Music Pill.

8.15 Drama 1, "Silence": A Play by Harold Pinter (A307 : prog 1).

9.45 Music Pill.

RADIO 4 (VHF)

Except for Radio Scotland, Wales and Ulster

10.40 Materials under stress : Gossamer Wings (T101 : prog 2).

11.00 The digital computer : An introduction to the Course (TM241 : prog 1).

11.20 Music Pill.

11.35 Management and the school : The Good Old Days (E323 : prog 1).

12.05 Music Pill.

12.20 Alternative syllabuses for Northern Ireland and Parts of Scotland and Wales only.

12.55 Materials under stress : Gossamer Wings (T101 : prog 2).

13.20 The digital computer : An introduction to the Course (TM241 : prog 1).

13.40 Music Pill.

Wednesday February 18

BBC 2

6.40 Materials under stress : Tools of the Trade (T361 : prog 1).

7.30 Arts foundation course : Way Interdisciplinary Studies? (A101 : prog 1).

7.55 Maps communication and society : Mapping and Measuring (MST355 : prog 1).

10.50 Art in Italy 1480-1580 : An introduction / Casting a Bronze, Statuette (A308 : prog 1).

11.15 Second Level Mathematics : Maths at Second Level (M300 : prog 0).

RADIO 3 (VHF)

6.55 Cognitive psychology : Computers, Programs and Behaviour (D303 : prog 1).

8.15 Music Pill.

8.35 Mass communication and society : Persuasion and Attitudes (MST355 : prog 1).

9.15 Making sense of society : Measuring Unemployment (D101 : prog 2).

10.35 An introduction to materials : Introduction (T9251 : prog 1).

RADIO 4 (VHF)

including Radios Scotland, Ulster and Cymru

10.30* Modern art from 1848 to the present : styles and social implications : theories of Art 1 : Impressionism (A263 : prog 3).

10.55 Music Pill.

11.05 Seventeenth century England : a changing culture : Architecture and Science / The Royal Society (A353 : prog 1).

11.30 Conflict and stability in the development of modern Europe : circa 1890 / 1970s Paris / Invasion (A300 : prog 11).

11.55 Childhood 5-10 : Getting Used to School (P552 : prog 1).

12.20 Mathematics in Action : Turning on the Power (T252 : prog 2).

12.45 Science and belief : From Darwin to Einstein (A818 : prog 1).

1.10 Health psychology : Creating the Right Conditions (D301 : prog 2).

1.35 Consumer decisions 1 : The County Show (T252 : prog 3) / The County Music Pill.

1.50 Archaeology : The Age of Oceanic Discovery (A322 : prog 1).

2.15 Materials under stress : Gossamer Wings (T101 : prog 2).

2.40 The digital computer : An introduction to the Course (TM241 : prog 1).

3.00 Music Pill.

RADIO 4 (VHF)

Including Radios Scotland, Ulster and Cymru

10.30 An introduction to sociology : Sect and Society (D207 : prog 1).

10.50 Art in Italy 1480-1580 : An introduction / Casting a Bronze, Statuette (A308 : prog 1).

11.15 Second Level Mathematics : Maths at Second Level (M300 : prog 0).

11.40 Curriculum review and future assessment : Introduction (E203 : prog 1).

12.00 Control engineering : Control Systems (T291 : prog 12).

12.25 Technology for teachers : Case Studies / Project Method (P551 : prog 1).

12.50 Technology foundation course : Values (T101 : prog 1).

1.10 An introduction to sociology : Sect and Society (D207 : prog 1).

1.30 Science and belief : From Darwin to Copernicus : Introduction to the Course (A818 : prog 0).

Thursday February 19

BBC 2

7.30* Making sense of society : Unemployment (D101 : prog 2).

10.50 The first years of life : Clash of Wills (P511 : prog 4).

11.15* Childhood 5-10 : Getting Used to School (P552 : prog 2).

RADIO 3 (VHF)

6.55 Cognitive psychology : Computers, Programs and Behaviour (D303 : prog 1).

7.15 Music Pill.

7.35 Mass communication and society : Persuasion and Attitudes (MST355 : prog 1).

8.55 Curriculum review and future assessment : Introduction (E203 : prog 1).

9.15 Control engineering : Control Systems (T291 : prog 12).

9.40 Technology for teachers : Case Studies / Project Method (P551 : prog 1).

10.05 Technology foundation course : Values (T101 : prog 1).

10.25 An introduction to sociology : Sect and Society (D207 : prog 1).

10.45 Science and belief : From Darwin to Copernicus : Introduction to the Course (A818 : prog 0).

RADIO 4 (VHF)

including Radios Scotland, Ulster and Cymru

10.30 An introduction to sociology : Sect and Society (D207 : prog 1).

10.50 Art in Italy 1480-1580 : An introduction / Casting a Bronze, Statuette (A308 : prog 1).

11.15 Second Level Mathematics : Maths at Second Level (M300 : prog 0).

11.40 Curriculum review and future assessment : Introduction (E203 : prog 1).

12.00 Control engineering : Control Systems (T291 : prog 12).

12.25 Technology for teachers : Case Studies / Project Method (P551 : prog 1).

12.50 Technology foundation course : Values (T101 : prog 1).

1.10 An introduction to sociology : Sect and Society (D207 : prog 1).

1.30 Science and belief : From Darwin to Copernicus : Introduction to the Course (A818 : prog 0).

Friday February 20

BBC 2

6.40* The nature of chemistry : Models in Chemistry (S364 : prog 2) / Fine Fibres and Big Molecules (T252 : prog 4).

7.05 Mathematics in Action : Turning on the Power (T252 : prog 2).

7.30* An introduction to calculus : Rates and Equations (M202 : prog 1).

9.50 Communicating ideas : Introduction to Education (E203 : prog 1).

10.15* Materials under stress : Tools of the Trade (T361 : prog 1).

8.55 The handicapped person in the community : Views (P551 : prog 1).

9.15* Man's religious quest : Religion as a Universal Phenomenon (AD208 : prog 1).

9.35 Images and Information : Introduction (T171 : prog 1).

10.10 Imaging the Universe : Introduction / The Pre-School Child : Fun (P551 : prog 3).

10.35 Consumer decisions 1 : Consumer Choices / Rights (T252 : prog 4).

10.55 Health choices / Rights (T252 : prog 4).

11.15 The digital computer : Introduction to the Course (TM241 : prog 1).

11.35 Great Britain 1760-1900 : sources and historiography / The Three Themes and the Tools (A401 : prog 1).

* Repeated programmes

Courses

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Universities

UNIVERSITY OF EXETER

PROFESSOR IN BIOLOGICAL SCIENCES

Applications are invited for the post of Professor in Biological Sciences, tenable from 1 October, 1981. Applicants should have research and teaching experience in an area of the Cell Sciences. Salary on the agreed Professorial range, current minimum £14,275 p.a.

Further particulars obtainable from the Academic Registrar and Secretary, University of Exeter, Northcote House, The Queen's Drive, Exeter, EX4 4QJ.

Closing date for receipt of applications (13 copies; overseas candidates one copy) 16 March, 1981.

UNIVERSITY OF EXETER

CHAIR OF ECONOMETRICS

Department of Economics

Applications are invited for a Chair of Econometrics in the Department of Economics. Salary on the agreed Professorial range, current minimum £14,275 p.a.

Details of the appointment, which is tenable from 1 October, 1981, should be obtained from the Academic Registrar and Secretary, University of Exeter, Northcote House, The Queen's Drive, Exeter EX4 4QJ.

Closing date for receipt of applications Monday, 9 March, 1981.

BEDFORD COLLEGE
(University of London)

Principal

The Council of BEDFORD COLLEGE are seeking to appoint a PRINCIPAL to take office in or before October 1982. The appointment is open equally to women and to men. The Council will not necessarily restrict their consideration to those who make written application.

Particulars of the post may be obtained from the Secretary, Bedford College, Regent's Park, London, NW1, (Telephone 01-486 4400), to whom application should be made.

University of London

Chair of Islamic Studies Tenable at the School of Oriental and African Studies

The Senate invite applications for the above Chair. Applications (10 copies) should be submitted to the Academic Registrar (T.H.E.S.), University of London, Malet Street, London WC1E 7HU, from whom further particulars should first be obtained.

Closing date Thursday, 12 March, 1981.

UNIVERSITY COLLEGE DUBLIN

DEPUTY LIBRARIAN

Applications are invited from candidates with appropriate academic and professional qualifications for the post of Deputy Librarian which will become vacant on October 1st 1981. Candidates should have substantial experience at senior level in a large library and familiarity with contemporary developments in library buildings and in computer-based library systems is desirable.

Salary Scales. IR £10,822-£15,084.

Prior to application, further information (including application procedure) should be obtained from the Secretary and Bursar, University College, Belfield, Dublin 4. Telephone enquiries: 693244, ext. 421.

THE CLOSING DATE FOR RECEIPT OF COMPLETED APPLICATIONS IS THURSDAY, 12th MARCH, 1981

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

ECOLOGY

Applications are invited from graduates with post-doctoral experience for appointment as LECTURER in Ecology in the Department of Human Sciences from 1st September 1981. Candidates should be able to teach ecological aspects of plant physiology, cell physiology and statistical methods in ecology within the Department's B.Sc. Honours Ecology course. Lecturers are also expected to conduct research and undertake some administration.

Salary within scale £5,505-£11,575 (under review). It is hoped to appoint within the lower half of the scale. Further details and application forms may be obtained from Paul Johnson, Establishment Officer, ref: 81/4 RU.

Loughborough. Leicestershire

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

LECTURER IN GERMAN

Applications are invited for the above vacancy in the Department of European Studies, tenable from October 1981. Good academic qualifications and a high level of written and spoken German are essential, together with research interests in some aspect of language teaching and/or modern German language/society. Salary within scale £5,505 to £11,575 (under review). It is hoped to appoint within the lower half of the scale. Requests for further details and application form to Paul Johnson, Establishment Officer, reference 81/5 RU.

Loughborough. Leicestershire

UNIVERSITY OF EAST ANGLIA, Norwich

Applications are invited for up to six posts of

Lecturer/ Senior Lecturer

in the new School of Education from 1 October 1981. Appointees will be required to teach education in one or more of the following areas: Computing Education, Curriculum Studies with particular reference to the Middle School, Education for Special Needs, Educational Psychology with particular reference to Classroom Practice, Teaching of English, Post School Management Education, Mathematical Education, Teaching of Modern Languages, Religious Education. The Selection Committee will also welcome applications from candidates who feel that they can make a special contribution to the work of the new School. All applicants will be expected to have school teaching experience. The salary will be at an appropriate point on the Lecturer scale £5,505 to £11,575 plus USS benefits. In a few cases it may be possible to appoint at Senior Lecturer level, if appropriate, scale £11,165 to £13,590 (scales under review).

Applications (one copy only) giving full particulars of age, qualifications and experience, together with the names and addresses of two persons to whom reference may be made, should be lodged with the Establishment Officer, University of East Anglia, Norwich NR4 7TJ (telephone 0603 56161 ext. 2120) from whom further particulars may be obtained, not later than 2nd March, 1981. No forms of application are issued. In addition three referees, two are further kindly requested to give only the names of those who can immediately be approached.

BRADFORD
THE UNIVERSITY
MODERN LANGUAGES CENTRE
LECTURESHIP IN FRENCH STUDIES

Applications are invited from candidates with a DEGREE IN FRENCH and the ability to teach German up to and including Final Honours level. Teaching duties will be mainly concerned with degree courses in Modern Languages and Linguistic Studies. The successful candidate will be expected to take up duties as soon as possible.

Salary scale £5,505 to £11,575 per annum under review). Superannuation.

Further particulars and application forms, which should be returned as soon as possible, from the Registrar, PO Box 304, Bradford, West Yorkshire BD7 1DP.

BRISTOL
THE UNIVERSITY
CHAIR IN SOCIAL ADMINISTRATION

The University proposes to make an appointment to a CHAIR IN SOCIAL ADMINISTRATION with effect from October 1, 1981, or such later date as may be agreed. It may be possible to appoint at Senior Lecturer level if appropriate, scale £11,165 to £13,590 (scales under review).

Suitably qualified candidates are invited to submit applications, which should be received not later than 2nd March, 1981, for the appointment which is tenable at the University of Bristol. Further particulars may be obtained from the Registrar, The University, Bristol BS8 1TH.

CAMBRIDGE
FITZWILLIAM COLLEGE
RESEARCH FELLOWSHIP IN ENGLISH

The College hopes to appoint a Research Fellow in English from October 1, 1981, or thereafter. Applications are welcome from men and women and for a period of three years, but the College would be willing to consider a shorter period if this is more convenient to the successful applicant. The stipend will be £3,000 per annum. Applications, including the names of three referees, should be sent by 1 March to the Master, Fitzwilliam College, Cambridge CB3 0DG, from whom further particulars may be obtained.

CAMBRIDGE
FITZWILLIAM COLLEGE
RESEARCH FELLOWSHIP IN ENGLISH

Applications are invited for two academic appointments at the level of Research Fellow or Lecturer or College Lecturer in the English Literature Tripos (Part I) or Mathematics (Parts I and II). Preference will be given to candidates whose field of research is in the period 1660 to 1900.

Applications should be sent to the Master, Fitzwilliam College, from whom further particulars may be obtained, by March 1st, 1981, and should be accompanied by a curriculum vitae and the names of two referees.

CAMBRIDGE
KING'S COLLEGE
LECTURESHIP IN APPLIED MATHEMATICS

Applications are invited from men or women for appointment to a Lectureship in Applied Mathematics for a term of five years from 1st October, 1981. The appointment will carry a University Lectureship, and specialists in any area within Applied Mathematics will be considered. The applicable scale of stipend will be somewhat below points one to eight of the National scale for University Lecturers.

Further particulars may be obtained from the Secretary, King's College, Cambridge CB2 1ST, to whom applications should be sent not later than February 28, 1981.

CAMBRIDGE
KING'S COLLEGE
LECTURESHIP IN APPLIED MATHEMATICS

Applications are invited from men or women for appointment to a Lectureship in Applied Mathematics for a term of five years from 1st October, 1981. The appointment will carry a University Lectureship, and specialists in any area within Applied Mathematics will be considered. The applicable scale of stipend will be somewhat below points one to eight of the National scale for University Lecturers.

Further particulars may be obtained from the Secretary, King's College, Cambridge CB2 1ST, to whom applications should be sent not later than February 28, 1981.

DURHAM
THE UNIVERSITY
ST JOHN'S COLLEGE
WITH CHURCHMAN'S HALL

Required for October 1981, PRACTISING PROFESSORIAL SUPERVISOR for the University Hall of the Christian Foundation for Education in India with suitable experience, either married couple or single man or woman; and full board offered in College. Applications should be lodged by 20 March with the Principal, St John's College, Durham DH1 3RJ, from whom further particulars may be obtained.

DUBLIN
UNIVERSITY COLLEGE
DEPARTMENT OF MATHEMATICS
(PURE MATHEMATICS)
2 POSTS

Applications are invited for two academic appointments at the level of Assistant Lecturer or College Lecturer in the Department of Mathematics (Pure Mathematics), for both appointments the normal duties should commence on 1 October, 1981.

The current salary scales are:

Assistant Lecturer: £5,991 to £7,320

College Lecturer: £9,178 to £13,020

Entry point on the relevant scale will depend on the candidate's qualifications and experience. There is no superannuation deduction.

Applications, for further information (including application forms), should be obtained from the Secretary and Registrar, 7 Earlsfort Terrace, Dublin 2. Telephone enquiries: 765244.

The closing date for receipt of completed applications is Thursday, March 26, 1981.

HONGKONG
THE UNIVERSITY
ENGINEERING TRAINING

Applications are invited for the established post of Engineering Training Officer. Candidates should have a degree or equivalent and relevant professional qualifications, together with experience in workshop technology and in industry. It is essential, candidates should have a sound knowledge of and preference in technical teaching.

The duties will include planning, supervision and assessment of workshop training for first year undergraduates, and arranging vacation training programmes for undergraduates undergoing industrial training.

Salary (superannuation benefits) on the scale HK$ 70,740 to HK$ 107,100 per annum, commencing salary according to qualifications and experience.

Further particulars may be obtained from the Secretary, Appointments Committee, Room 1, Hong Kong University, Pokfulam Road, Hong Kong, to whom applications should be sent by 30 April, 1981.

BATH
THE UNIVERSITY
SCHOOL OF MATHEMATICS
PROFESSOR OF MATHEMATICS

Applications are invited for the above post, tenable from October 1981. The appointee is intended to promote research and teaching in the mathematical sciences, in a way which will complement the work of existing staff. It is established as a personal chair.

Salary will be £13,590 per annum (under review).

Further particulars may be obtained from the Secretary, University of Bath, Claverton Down, Bath BA2 7AY, to whom applications should be sent by 1 April, 1981.

Closing date for applications March 1st 1981.

CAMBRIDGE
MAGDALENE COLLEGE

Election of FELLOW (non-stipendiary) for Lent term 1981, in Mechanical Sciences.

Details from the Master.

CAMBRIDGE
SELWYN COLLEGE

Election of FELLOW (non-stipendiary) for Lent term 1981, in Mechanical Sciences.

Details from the Master.

CAMBRIDGE
KING'S COLLEGE
LECTURESHIP IN APPLIED MATHEMATICS

Applications are invited from men or women for appointment to a Lectureship in Applied Mathematics for a term of five years from 1st October, 1981. The appointment will carry a University Lectureship, and specialists in any area within Applied Mathematics will be considered. The applicable scale of stipend will be somewhat below points one to eight of the National scale for University Lecturers.

Further particulars may be obtained from the Secretary, King's College, Cambridge CB2 1ST, to whom applications should be sent not later than February 28, 1981.

CAMBRIDGE
THE UNIVERSITY
ASSISTANT DEMONSTRATOR

In Zoology Department Mammals Laboratory with responsibility for care of laboratory animals. Nursery curatorial experience and ability to work in an approximate field capacity. Preference will be given to candidates with knowledge of reproduction of mammals. Post available from 1 April or as soon as possible thereafter. Salary, based on scale £6,630 to £8,220 per annum, will be under regular review and will depend on experience. Applications, with names of three referees, should be sent as soon as possible before 1 March to Dr Ognev at Zoology Department, Downing Street, Cambridge CB2 3EJ.

Further details from the Secretary, Appointments Committee, Department of Applied Biology, Silver Street, Cambridge CB2 3DZ. Applications close March 21.

CAMBRIDGE
FITZWILLIAM AND SELWYN COLLEGES
JOINT ASSISTANTSHIP IN LAW

Fitzwilliam College and Selwyn College propose to appoint a Joint College Assistant in Law from October 1, 1981. The appointment, which is open to graduates who will by October 1 have completed at least two years of Postgraduate work for a degree in Law or Jurisprudence, is for one year, renewable for a second year. The person appointed would hold a Research Fellowship in one of the two Colleges, and would be elected to a Fellowship in the other. It is envisaged that, in addition to his duties as Assistant, he will be a Director of Studies in Law in the College to which he is elected. He will also be expected to undertake some supervision and lecturing within the Faculty of Law.

The stipend will be £3,000 per annum. Applications, including the names of three referees, should be sent by 1 March to the Master of Fitzwilliam College, Cambridge CB3 0DG, from whom further particulars may be obtained.

CAMBRIDGE
FITZWILLIAM COLLEGE
RESEARCH FELLOWSHIP IN ENGLISH

The College hopes to appoint a Research Fellow in English from October 1, 1981, or thereafter. Applications are welcome from men and women and for a period of three years, but the College would be willing to consider a shorter period if this is more convenient to the successful applicant. The stipend will be £3,000 per annum. Applications, including the names of three referees, should be sent by 1 March to the Master, Fitzwilliam College, Cambridge CB3 0DG, from whom further particulars may be obtained.

CAMBRIDGE
FITZWILLIAM COLLEGE
RESEARCH FELLOWSHIP IN MATHEMATICS

Applications are invited for two academic appointments at the level of Research Fellow or Lecturer or College Lecturer in the Mathematical Tripos (Part I) or Natural Sciences (Part I Mathematics), or both appointments the normal duties should commence on 1 October, 1981.

The current salary scales are:

Assistant Lecturer: £5,991 to £7,320

College Lecturer: £9,178 to £13,020

Entry point on the relevant scale will depend on the candidate's qualifications and experience. There is no superannuation deduction.

Applications, for further information (including application forms), should be obtained from the Secretary and Registrar, 7 Earlsfort Terrace, Dublin 2. Telephone enquiries: 765244.

The closing date for receipt of completed applications is Thursday, March 26, 1981.

Universities continued

Applications are invited for the following posts, for which applications close on the dates shown. Salaries (unless otherwise stated) are as follows: Professor $A37,151, Lecturer $A18,448-$A24,236. Further details and application procedure may be obtained from The Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, unless otherwise stated.

The University of Tasmania

CONTRACT LECTURER IN CERAMICS

Applications are invited for a three-year contract Lectureship in Ceramics in the Tasmanian School of Art, a Faculty of the University, which offers an Associate Diploma and Bachelors and Masters degrees. Candidates should be experienced and practising studio potters with thorough handbuilding, throwing and related techniques, and kiln technology. Experience in teaching at tertiary level and in the management of a ceramics and glass teaching studio is desirable.
27 February 1981.

The University of Adelaide

CHAIR IN THE ANIMAL SCIENCES

Waite Agricultural Research Institute

The University is seeking to broaden and strengthen the range of animal studies at the Waite Agricultural Research Institute. A new Department is being formed from staff of the Waite Institute's Department of Animal Physiology and from elsewhere in the Institute. Consequently the University seeks to fill a Chair in the Animal Sciences relevant to livestock productivity, e.g. physiology, biochemistry, endocrinology, nutrition, genetics or other related disciplines. The Chair has become available following the retirement of Professor W. V. Macfarlane, F.A.A.
The University of Adelaide operates a Superannuation Scheme, membership of which is obligatory.
30 April 1981.

James Cook University of North Queensland

LECTURER IN SOCIAL WORK

Department of Behavioural Sciences

To take up duty in September 1981 or as soon as possible thereafter.
The appointee will be required to participate in social work education at all levels in a generic social work programme. The Department has a special interest in appointing a candidate with experience in group work but candidates with experience and qualifications in any area of social work will be considered.
Applicants must have a good honours degree and relevant experience and/or an advanced degree in social work. Qualification in one of the other disciplines in the Department (Psychology, Anthropology, Sociology) would be an added advantage.
Applicants must be eligible for membership of the Australian Association of Social Workers. The appointment is tenured, subject to satisfactory completion of a probationary period.
20 March 1981.

University of Western Australia
Perth

LECTURER IN COMMERCIAL LAW

Department of Management

The Department forms part of the School of Commerce and is responsible for the teaching of Legal Studies at both the undergraduate and postgraduate level within the Faculty of Economics and Commerce. Special areas of study include Contract Law, Special Commercial Contracts, Company, Industrial and Consumer Law. The appointee will be expected to teach, develop curriculum and supervise studies in one or more of the above areas. A similar appointment has recently been made within the Department and this advertisement refers to a new vacancy.
Applicants should hold a good first degree in Law and preferably a higher degree or other evidence of research activity. A professional qualification would be an advantage. Previous teaching experience, preferably within a university non-law department, is highly desirable. It is anticipated that the appointee will take up the appointment no later than June/July, 1981.
Current salary range: $A19,132-$A25,132. Benefits include superannuation, fares to Perth for appointee and dependent family, removal allowance, study leave and long service leave and housing loan scheme.
Applications in duplicate stating full personal particulars, qualifications and experience should be sent to the Acting Staffing Officer, University of Western Australia, Nedlands, Western Australia, 6009. Candidates should request three referees to write immediately to the Acting Staffing Officer.
28 March 1981.

University of Queensland

CHAIR OF ECONOMICS

The University invites applications for the Chair of Economics held by Professor R. C. Gates prior to his appointment as Vice-Chancellor of the University of New England. The appointee will be expected to provide academic leadership in his discipline. Applications would be especially welcome from persons with outstanding qualifications in applied economics, with expertise in statistics/econometrics and preferably working in macroeconomics. However, interests in these areas are desirable rather than necessary, and applications are invited from persons with outstanding qualifications in any field of Economics. There are two other chairs of Economics in the Department, currently held by Professor H. M. Kolsen and Professor D. M. Lamberton.
31 March 1981.

CHAIR OF CLINICAL ANATOMICAL PATHOLOGY

Princess Alexandra Hospital, Brisbane

Applicants should hold a basic medical qualification and a higher qualification in anatomical pathology entitling them to specialist registration in Queensland. They should have extensive experience in clinical anatomical pathology, a distinguished research record and should have demonstrated ability in teaching at undergraduate and preferably at postgraduate levels. This newly created position is jointly funded by the University and the Princess Alexandra Hospital. The appointee will be responsible to the Hospital Medical Superintendent through the Director of Pathology for clinical service work, and to the Head of the University Pathology Department for teaching and research, which may be carried out at the Medical School at Herston as well as at the Hospital. He/She will be eligible for consideration for appointment as Head of the University Department when Professor J. F. R. Kerr's term as Head expires in December, 1984.
Salary: Plus a clinical loading of $5,000 per annum.
31 March 1981.

EXETER

THE UNIVERSITY

LECTURER IN COMPUTER SCIENCE

Applications are invited for a lectureship in the Department of Computer Science, tenable from 1 October, 1981.

Preference will be given to qualified persons working in the following areas of computer science, operating systems; artificial intelligence with applications in automated deduction and mathematical symbol-manipulation, systems analysis; data bases and information retrieval; design and implementation of programming languages; distributed computing systems. However well-qualified persons in other areas of computer science are also welcome to apply.

Commencing salary will be within the range £5,505-£8,470 p.a. on the scale £5,505-£11,575 p.a.

Further particulars may be obtained from Mrs Doreen Birch, Northcote House, Queen's Drive, Exeter, EX4 4QJ, to whom applications (6 copies) should be forwarded by March 9, 1981. Please quote reference No. 3263.

HULL

THE UNIVERSITY

LECTURESHIP IN POLITICS

Applications are invited for a Lectureship in the Department of Politics with effect from October 1, 1981, to teach in the field of British and Comparative Public Administration. Competence in International Politics would be an advantage.

Salary scale: £5,505 to £11,575 per annum (under review), plus USS benefits.

Applications (six copies) giving details of age, qualifications and experience together with the names of three referees should be sent by February 28, 1981, to the Registrar, The University of Hull, Hull, HU6 7RX from whom further particulars may be obtained.

LEEDS

THE UNIVERSITY

DEPARTMENT OF FRENCH LANGUAGE AND LITERATURE

Applications are invited for a post of LECTURER in the above department available from October 1, 1981. Qualifications and special interests in French language/linguistics, history of the language or 16th century period will be of particular interest, though well qualified applicants in other areas will also be considered.

Salary on the scale for Lecturers: £5,505 to £11,575, according to age, qualifications and experience.

Informal enquiries may be made to Professor T. E. Hope (telephone: 0532 31751, ext. 6060).

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 5/6. Closing date for applications March 6, 1981.

LONDON

THE UNIVERSITY

CHAIR OF PHYSICAL GEOGRAPHY TENABLE AT BEDFORD COLLEGE

The Senate invite applications for the above Chair.

Applications (10 copies) should be submitted to the Academic Registrar (THES), University of London, Malet Street, London WC1E 7HU, from whom further particulars should first be obtained. Closing date March 10, 1981.

LONDON

THE UNIVERSITY OF LONDON DEPARTMENT OF EXTRA-MURAL STUDIES

The Senate invite applications for a post of :—

RESIDENT STAFF TUTOR

for the Tutorial Classes Committee of the above Department. The successful applicant, in addition to teaching in tutorial classes, will be required to act as area officer responsible for organising and developing the work of the Department in a small number of central London boroughs, and to help in developing the academic programme of the Department in archaeology. High academic qualifications and experience in adult education essential. Applications will be considered from teachers of archaeology and preference will be given to those with special interest in the later prehistory of Europe or in Romano-British archaeology.

Salary on the scale £5,505-£11,575 per annum plus London Allowance of £967 per annum. Membership of USS/USDPS.

Application forms and further particulars [illegible] (both at present under review) obtainable from the Personnel Officer, University of London, Senate House, Malet Street, London WC1E 7HU (Tel: 01-636 8000, ext. 101). Closing date for applications is 6th March, 1981.

DURHAM

THE UNIVERSITY

CHAIR IN GEOLOGY

Applications are invited for a Chair in Geology from candidates with research interests in any of the main fields of Geology. The appointment will date from October 1, 1981, or such other date as may be arranged.

The appointment will be made on the Professorial salary scale ([illegible]) per annum, together with the usual pension arrangements.

Applications (three copies) including the names of three referees, must be submitted not later than Thursday, April 23, 1981, to the Registrar and Secretary, Old Shire Hall, Durham, from whom further particulars may be obtained.

LIVERPOOL

THE UNIVERSITY

DIRECTOR OF PHYSICAL EDUCATION AND RECREATION

Applications are invited for the post of Director of Physical Education and Recreation. The salary will be not less than [illegible] per annum (under review).

Applications (14 copies) together with the names of three referees, should be received not later than March 27, 1981, by the Registrar, The University, P.O. Box 147, Liverpool L69 3BX, from whom further particulars may be obtained. (Candidates overseas who wish to do so may send only one copy by airmail.) Quote reference [illegible].

LONDON

THE UNIVERSITY

THE LONDON SCHOOL OF ECONOMICS

LECTURESHIP IN SOCIAL PSYCHOLOGY

Applications are invited for appointment from October 1 1981 to a lectureship in Social Psychology.

Candidates should have research and or teaching experience in one of the following areas: social cognitions and attitudes; groups or organisations; communication; language; socialisation; personality; research methodology.

Appointment will be on the salary scale for lecturers of £5,505 to £11,575 a year plus £967 a year London Allowance. In assessing the starting salary, consideration will be given to qualifications, age and experience.

Application forms and further particulars are available, on receipt of a stamped, addressed envelope, from the Administrative Officer, H.610, The London School of Economics, Houghton Street, London WC2A 2AE. Closing date for applications: 13 March 1981.

MANCHESTER

THE UNIVERSITY

LECTURERS AND TEMPORARY LECTURERS IN ACCOUNTING

Applications are invited for these posts from graduates, professionally qualified accountants or persons with relevant industrial or commercial experience. No particular specialization is required and applicants with interests in any of the following areas will be considered: financial accounting; management accounting; management information systems; finance; organizational behaviour; taxation; auditing; comparative international accounting; public sector accounting.

Salary range per annum £5,505 to £11,575.

Particulars and application forms (returnable by March 6) from the Registrar, The University, Manchester M13 9PL. Quote reference 29/81/THES.

MANCHESTER

THE UNIVERSITY

HESTER ADRIAN RESEARCH CENTRE

A vacancy exists for a statistician, who will provide statistical advice to all HARC projects but will initially be concerned with the analysis of survey and experimental data resulting from the work of the Habilitation Technology Project, which is engaged in the large scale assessment of mentally handicapped adults attending Adult Training Centres. This project is currently funded until September, 1983. Applicants must be appropriately qualified and competent in computer programming and the use of available routines.

Salary range £5,505 to £9,600 per annum.

Informal enquiries to Dr. E. Whelan, Hester Adrian Research Centre. For details and application forms (returnable by March 6) from the Registrar, The University, Manchester M13 9PL. Quote ref. 28/81/THES.

MANCHESTER

THE UNIVERSITY

TWO LECTURESHIPS IN SCIENCE, TECHNOLOGY AND SOCIETY

Applications are invited for these posts in a thriving group of seven engaged in teaching and research in economic, political, managerial and social aspects of science and technology. The appointees can also expect to form excellent contacts with academics with similar research interests in other departments of the University and UMIST. The posts are in the Department of Liberal Studies in Science.

Initial salary range: £5,505 to £6,515 p.a.

Particulars and application forms (returnable by February 28) from the Registrar, The University, Manchester M13 9PL. Quote ref. 4/81/THES.

NEW ZEALAND

UNIVERSITY OF WAIKATO
Hamilton

JUNIOR LECTURER/LECTURER

INDUSTRIAL AND SOCIAL PSYCHOLOGY

The University of Waikato invites applications for a position of Junior Lecturer or Lecturer in the Department of Psychology. The appointment may be made for a limited term.

The appointee will be required to teach general social psychology at first year level and develop a programme in industrial psychology at higher levels, and should have a higher degree in a suitable area of psychology. A detailed knowledge of the use of psychological tests in occupational settings, and of evaluation research is essential and an interest in women in employment would be of advantage.

The Department has a strong interest in behaviour analysis and its applications. While this appointment is within the School of Social Sciences, the industrial and occupational psychology teaching will be developed in close association with the School of Management Studies.

The University would expect the successful candidate to take up the appointment as soon as reasonably practicable and would hope that he/she will commence duties no later than June 1981.

Current Salary Scales are: Junior Lecturer NZ$13,505 to [illegible] per annum; and Lecturer NZ$18,229 to NZ$22,400 per annum.

The application procedure and conditions of appointment are available from the Registrar, University of Waikato, Hamilton, New Zealand, or from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF. Enquiries of an academic nature may be made to Professor [illegible], Head of Psychology, at the University.

Applications close on April 10, 1981.

MANCHESTER

THE UNIVERSITY

SENIOR LECTURER/LECTURER IN AGRICULTURAL ECONOMICS

Applications are invited for this post from candidates with a higher degree, preferably a Ph.D. and a sound training in the application of quantitative methods and economic theory. Preference will be given to candidates able to make a special contribution to teaching and research in [illegible] development. Consideration will also be given to applicants who can contribute to the Department's work in marketing, agricultural policy, commodity analysis, [illegible] and environmental [illegible]. Appointment as Senior Lecturer will only be considered for candidates with a strong research record.

Salary range [illegible] (Senior Lecturer) or £5,505 to [illegible] (Lecturer).

Particulars and application forms (returnable by March [illegible]) from the Registrar, The University, Manchester M13 9PL. Quote ref: [illegible]/THES.

MANCHESTER

THE UNIVERSITY

LECTURER IN BOTANY

Applications are invited for the position of Lecturer in the Department of Botany, tenable from April 1, 1981. Applicants should have qualifications in some field of plant physiology or plant biochemistry.

Initial salary per annum £5,505 to £6,615.

Particulars and application forms (returnable by March 7) from the Registrar, The University, Manchester M13 9PL. Quote ref. 26/81/THES.

MANCHESTER

THE UNIVERSITY

LECTURER IN POLLUTION STUDIES

Applications are invited from persons with experience in the field of pollution for the above post in the Pollution Research Unit. Principal duties will involve teaching at postgraduate level on the Unit's M.Sc. course in Pollution and Environmental Control, supervision of projects and research students, administration and the development of his/her own research, preferably in the field of marine pollution or conservation of natural resources or damage to terrestrial ecosystems.

Initial salary range p.a.: £5,505-£6,615.

Particulars and application forms (returnable by February 28th) from the Registrar, The University, Manchester M13 9PL. Quote ref: 23/81/THES.

NOTTINGHAM

THE UNIVERSITY

LECTURER IN FRENCH AND GERMAN

Applications are invited for this post which will carry with it the teaching commitments in the French and German Departments. The research interest of candidates should lie in any part of the field of French and German literature since 1600; but a specialism in eighteenth-century literature would be a particular advantage.

Salary will be within the range £5,505 to £11,575 per annum but the appointment will be made initially within the range £5,505 to £6,245 per annum.

Further particulars and forms of application, returnable not later than March 9, 1981, from the Staff Appointments Officer, University of Nottingham, University Park, Nottingham NG7 2RD. Reference number 768.

THE OPEN UNIVERSITY

COMPUTING SERVICE

PROGRAMMER/ANALYST

A vacancy exists for an experienced Programmer/Analyst to join the Systems and Programming Group. The successful applicant will be expected to work closely with academic colleagues in the development of interactive teaching packages for students. Our programmer/analysts hold academic qualifications in a wide variety of subjects enabling us to support projects in most disciplines, including mathematics, statistics, social sciences, education studies and technology.

We are looking for someone with a good academic background in one of the above subject areas, coupled with experience in using and programming time-sharing computer systems.

An appointment will be made within the scale £5,505 to £9,590 (under review), plus membership of the Universities Superannuation Scheme. The University offers attractive working conditions at the Headquarters in Milton Keynes together with six weeks' annual leave, plus assistance with relocation to the area.

Application forms and further particulars are obtainable from the Administrative Assistant (S.C.S.), The Computing Service, The Open University, Walton Hall, Milton Keynes MK7 6AA, or by telephone on Milton Keynes (0908) 653063. There is a 24-hour answering service on 653868.

The closing date for applications is March 2.

Please quote reference (3589/3).

OXFORD

LINCOLN COLLEGE

DARBY FELLOWSHIP IN ENGLISH LANGUAGE AND LITERATURE

The College invites applications from graduates of either sex, with interests in English Literature before 1800 and English Language, for a Darby Fellowship in English Language and Literature, tenable for seven years from October 1, 1981. Applicants should normally be under 28 years of age. In making the appointment regard will be had to research achievement and potential as well as to teaching experience or qualifications.

Further particulars and application form may be obtained from the Rector, Lincoln College, Oxford OX1 3DR, to whom applications should be submitted by March 13, 1981.

OXFORD

ST. PETER'S COLLEGE

JUNIOR RESEARCH FELLOWSHIP IN HUMAN GEOGRAPHY

St. Peter's College, Oxford, proposes to elect a Junior Research Fellow in Human Geography for two years from October 1, 1981, with the possibility of renewal for a third year. The Fellow will be paid a stipend of £5,500 per annum and will be encouraged to undertake a limited amount of teaching.

Applications should be made not later than March 13, 1981.

For further particulars or enquiries, apply to the Master, St. Peter's College, Oxford, OX1 2DL.

OXFORD

WADHAM COLLEGE

Temporary part-time LECTURER in FRENCH LITERATURE (pre-1800), for 1981-2 in the first instance. Further particulars from the Senior Tutor.

Applications before March 31 1981.

ZAMBIA

THE UNIVERSITY

Applications are invited for the following posts in the School of Education:

(1) PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER in EDUCATION (six posts).

Applicants should be qualified in Secondary Curriculum and Methods (T.E.S.L., Geography, Biology, Economics), Educational Technology or Audio-Visuals and Educational Foundations (Psychology, Sociology, Research Methodology). Appointees will teach both undergraduate and postgraduate programmes.

(2) PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER in GEOGRAPHY (four posts).

Applicants should be qualified in Cartography, Climatology, Economic Geography, Population Geography, Quantitative Methods, Rural Geography, Soils Geography, etc. Those with field and teaching experience in developing countries are preferred. Appointees will teach both undergraduate and postgraduate programmes.

Applicants should hold either a Masters degree or a Ph.D. and have appropriate professional experience. For the more senior levels, evidence of research abilities is required.

Salary scales: Professor K11,352 to K12,324 p.a. Associate Professor K10,056 to K11,028 p.a. Senior Lecturer K8,746 to K9,732 p.a. Lecturer K6,756 to K8,640 p.a. (£1 sterling equals K1.95.) The British Government may provide salary supplementation in range £5,664 to £10,830 p.a. (sterling) for married appointees or £3,414 to £7,890 p.a. (sterling) for single appointees (reviewed annually; normally tax-free) and associated benefits. Two to four year contract; biennial overseas leave; gratuity; family passages; baggage allowance.

Detailed applications (two copies), including a curriculum vitae and naming three referees, should be sent to the University Secretary, University of Zambia, P.O. Box 31338, Lusaka, Zambia, to arrive no later than March 19, 1981. Applicants resident in U.K. should also send one copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

ZAMBIA

THE UNIVERSITY

Applications are invited for 6 posts of PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER in HISTORY in the School of Education.

Applicants should be able to teach at least one of the following: Non-European History (preferably Asia/Middle East); Modern Europe, Soviet Union; United States history/Black American history; African history (preferably Francophone). They should hold a Masters degree or a Ph.D. and have some years professional experience. For the more senior levels, evidence of research abilities will be required. Appointees will teach undergraduate and postgraduate programmes.

Salary scales: Professor K11,352 to 12,324 per annum; Associate Professor K10,056 to 11,028 per annum; Senior Lecturer K8,746 to K9,732 per annum; Lecturer K6,756 to 8,640 per annum (£1 sterling equals K1.95). Two to four year contract; biennial overseas leave; gratuity; family passages; baggage allowance.

Detailed applications (2 copies), including a curriculum vitae and naming 3 referees should be sent to the University Secretary, University of Zambia, PO Box 31338, Lusaka, Zambia, to arrive no later than March 19 1981. Applicants resident in United Kingdom should also send 1 copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

ZAMBIA

THE UNIVERSITY

Applications are invited for the following posts in the CENTRE FOR CONTINUING EDUCATION:

(1) PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER IN MASS COMMUNICATION.

(2) PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER in JOURNALISM (Adult Literacy and Numeracy).

Applicants should hold a higher degree and have appropriate professional experience. For the more senior levels, evidence of research ability is required.

Salary scales: Professor K11,352 to K12,324 per annum; Associate Professor K10,056 to K11,028 per annum; Senior Lecturer K8,746 to K9,732 per annum; Lecturer K6,756 to K8,640 per annum (£1 sterling = K1.95). The British Government may provide salary supplementation in range £5,664 to £10,830 per annum (sterling) for married appointees or £3,414 to £7,890 per annum (sterling) for single appointees (reviewed annually; normally tax-free) and associated benefits. Two to four year contract; biennial overseas leave; gratuity; family passages; baggage allowance.

Detailed applications (two copies), including a curriculum vitae and naming three referees should be sent to the University Secretary, University of Zambia, P.O. Box 31338, Lusaka, Zambia, to arrive no later than March 19, 1981. Applicants resident in U.K. should also send one copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

Universities continued

OXFORD

THE UNIVERSITY

MARJORY WARDROP SCHOLARSHIP

Applications are invited for a Marjory Wardrop Scholarship to be offered, from a date to be agreed, for two years in the first instance, with the possibility of renewal for a third year. The scholarship is to be awarded for the encouragement of the study of the language, literature, and history of Georgia (in Transcaucasia). The amount of the award will be of the order of that of a current Major State Studentship or such other sum as may be determined in the light of the financial circumstances of the successful candidate.

Applications, including a curriculum vitae, details of the proposed research, and the names of two academic referees, should be sent to the Secretary of the Marjory Wardrop Fund, University Offices, Wellington Square, Oxford, not later than Friday, March 21, 1981.

The Managers of the Marjory Wardrop Fund will also consider applications for smaller grants towards the cost of publication of work relating to the language, literature, or history of Georgia. Applications, which will be considered from time to time as received, should be sent to the Secretary.

YORK

THE UNIVERSITY

DEPARTMENT OF POLITICS

TWO TEMPORARY LECTURESHIPS

Applications are invited for the above posts. The first post is a one-year appointment in the History of Political Philosophy, and the second is a two-year appointment in Modern Social and Political Theory of the nineteenth and twentieth centuries. Capacity to teach in addition contemporary political philosophy (analytical and conceptual) and/or political sociology and/or political economy of advanced industrial societies will be an advantage.

The starting salary for each post will be within the first three points of the Lecturer's scale, £5,505 to £11,575.

Six copies of applications (one from overseas candidates) naming three referees should be sent by March 6, 1981, to the Registrar, University of York, Heslington, York YO1 5DD, from whom further particulars may be obtained. Please quote reference number 6/3170 (one year post) or 6/3171 (two year post).

ZAMBIA

THE UNIVERSITY

Applications are invited for four posts of PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER IN CHEMISTRY.

Applicants should be qualified in Analytical Chemistry (spectrochemical methods of analysis), Inorganic Chemistry (synthetic transitional metal chemistry) or Biochemistry (enzymology or protein chemistry). They should hold a Ph.D. and have appropriate professional experience. For the more senior levels, evidence of research abilities is required.

Salary scales: Professor, K11,352 to K12,324 per annum; Associate Professor, K10,056 to K11,028 per annum; Senior Lecturer, K8,746 to K9,732 per annum; Lecturer, K6,756 to K8,640 per annum. (£1 sterling equals K1.95.) The British Government may provide salary supplementation in range £5,664 to £10,830 per annum (sterling) for married appointees or £3,414 to £7,890 per annum (sterling) for single appointees (reviewed annually —normally tax-free) and associated benefits. Two to four-year contract; biennial overseas leave; gratuity; family passages; baggage allowance.

Detailed applications (two copies), including a curriculum vitae and naming three referees, should be sent to the University Secretary, University of Zambia, P.O. Box 31338, Lusaka, Zambia, to arrive no later than March 19, 1981. Applicants resident in U.K. should also send one copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

ZAMBIA

THE UNIVERSITY

Applications are invited for the following posts in the School of Agricultural Sciences:

1. PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER in AGRICULTURAL MECHANISATION (1 post).

2. PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER in RURAL ECONOMY and EXTENSION EDUCATION (1 post).

Applicants should have either a Masters degree or a Ph.D. and appropriate professional experience. For the more senior levels, evidence of research ability is required.

Salary scales: Professor K11,352 to 12,324 p.a. Associate Professor K10,056 to 11,028 p.a. Senior Lecturer K8,746 to 9,732 p.a. Lecturer K6,756 to 8,640 p.a. (£1 sterling = K1.95). The British Government may provide salary supplementation in range £5,664 to 10,830 p.a. (sterling) for married appointees or £3,414 to 7,890 p.a. (sterling) for single appointees (reviewed annually—normally tax-free) and associated benefits. Two to four year contract; biennial overseas leave; gratuity; family passages; baggage allowance.

Detailed applications (2 copies) including a curriculum vitae and naming 3 referees should be sent to the University Secretary, University of Zambia, PO Box 31338, Lusaka, Zambia, to arrive no later than March 19, 1981. Applicants resident in United Kingdom should also send 1 copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

ZAMBIA

THE UNIVERSITY

Applications are invited for the following posts in the School of Engineering:

1. PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER IN CIVIL ENGINEERING. Three posts in Soil Mechanics and Foundation Engineering/Highway and Traffic Engineering/Structural Engineering or Building Construction.

2. PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER IN ELECTRICAL ENGINEERING. Three posts in Electrical Machines and Power/Systems/Telecommunications, Electronics and Telecommunications.

3. PROFESSOR/ASSOCIATE PROFESSOR/SENIOR LECTURER/LECTURER IN MECHANICAL ENGINEERING. Three posts in Production Engineering and Drawing/Engineering Design and Materials/Applied Mechanics.

4. RESEARCH FELLOW IN THE TECHNOLOGY DEVELOPMENT UNIT. (Appointment will be at Professor, Associate Professor, Senior Lecturer or Lecturer level depending on qualifications and experience.) Specialization is in Building Construction with special interest in low-cost housing.

Applicants for posts 1, 2 and 3, should have a Masters degree or a Ph.D. and some appropriate professional experience. For the more senior levels, evidence of research abilities will be required. Applicants for post 4 should have a doctorate or equivalent research experience. Salary scales: Professor K11,352 to K12,324 per annum. Associate Professor K10,056 to K11,028 per annum. Senior Lecturer K8,746 to K9,732 per annum. Lecturer K6,756 to K8,640 per annum (£1 sterling =K1.95). The British Government may provide salary supplementation, at a rate to be calculated, and associated benefits. Two to four-year contracts; biennial overseas leave; gratuity; family passages; baggage allowance.

Detailed applications (two copies), including a curriculum vitae and naming three referees, should be sent to the University Secretary, University of Zambia, P.O. Box 31338, Lusaka, Zambia, to arrive no later than March 19, 1981. Applicants resident in UK should also send one copy to Inter-University Council, 90-91 Tottenham Court Road, London W1P 0DT. Further details are available from either address.

Fellowships and Studentships

ESSEX

THE UNIVERSITY

LEVERHULME VISITING FELLOWSHIP

Applications are invited from holders of recently-awarded doctorates of Commonwealth (not United Kingdom), South African or United States universities for a Leverhulme Visiting Fellowship tenable in 1981-82 in any department of the University. The value is £3,600 plus allowances.

Applications (three copies), including a curriculum vitae and the names and addresses of two referees, should reach the Registrar (AO/117/THES), University of Essex, Wivenhoe Park, Colchester CO4 3SQ, England, from whom further particulars may be obtained, by March 9, 1981.

NOTTINGHAM

ST JOHN'S COLLEGE

Is seeking to appoint a PART-TIME TUTOR preferably for about a year from Spring, 1981. The post is primarily a pastoral rather than a teaching one; it might suit someone doing research.

For further details write to the Revd John Goldingay, Registrar, St John's College, Bramcote, Nottingham, NG9 3DS. Applications should be submitted by March 4.

THE OPEN UNIVERSITY

FACULTY OF EDUCATIONAL STUDIES

RESEARCH FELLOWSHIP FOR A PROJECT ON ASSESSMENT STANDARDS

The Faculty has been commissioned by the Technician Education Council to conduct an investigation into methods of moderating standards of assessment for TEC awards and the development of a moderating test. The project, under the direction of Professor D. L. Nuttall, requires a Research Fellow for two years nine months from April 1, 1981.

The Research Fellow will be concerned with all aspects of the project, including liaison with TEC and colleges of further education, and the development and analysis of tests. His/her main responsibility will, however, be for statistical analysis and model-building with the assistance of the project's consultant, Professor H. Goldstein. He/she should hold a Ph.D. in the field of applied statistics and be familiar with computer programming.

Salary will be on the scale of £5,505-£7,505.

Further details and application forms are obtainable from the Assistant Secretary (Educational Studies) (3175/2), The Open University, Walton Hall, Milton Keynes MK7 6AA, or telephone Milton Keynes (0908) 653773; there is a 24 hour answering service on Milton Keynes 653868.

Closing date for applications: March 6.

THE OPEN UNIVERSITY

Research Studentships

The Open University invites applications for full-time research studentships, tenable from 1st October, 1981, at Milton Keynes and the Oxford Research Unit. A wide variety of research topics is available within the following Faculties and research groups:

ARTS FACULTY
EDUCATIONAL STUDIES FACULTY
INSTITUTE OF EDUCATIONAL TECHNOLOGY
MATHEMATICS FACULTY
SCIENCE FACULTY
SOCIAL SCIENCES FACULTY
TECHNOLOGY FACULTY
CO-OPERATIVES RESEARCH UNIT
ENERGY RESEARCH GROUP
INFORMATION RESEARCH GROUP
OXFORD RESEARCH UNIT
SURVEY RESEARCH DIVISION
SYSTEMS GROUP

Successful applicants will be awarded a research studentship of the Open University, or of the Research Councils. Applicants should normally have (or expect to gain in 1981) a good honours degree. For further particulars and application forms please send a POSTCARD to The Higher Degrees Office, The Open University, P.O. Box 49, Walton Hall, Milton Keynes MK7 6AD. PLEASE SPECIFY THE AREA(S) IN WHICH YOU ARE INTERESTED AND QUOTE REFERENCE RS/4.

Applications should be submitted as soon as possible.

SAINT DAVID'S UNIVERSITY COLLEGE, LAMPETER

RESEARCH STUDENTSHIPS

Applications are invited from home fee-paying graduates of an approved university, for three two-year studentships tenable at Saint David's University College, Lampeter. Successful candidates will be required to register for a Higher Degree of the University of Wales, and should be prepared to undertake a scheme of research on one of the following locally-oriented projects.

(a) A study of an aspect of the Welsh language, especially dialects, or of Welsh literature, in Dyfed.
(b) The theology of Rowland Williams and his impact on the religious thought of the Nineteenth Century.
(c) Aspects of Anglo-Welsh literature (especially since the 1890s) in relation to the strengths and/or problems of Wales and the Welsh.
(d) Settlement and land-scape studies in Central Wales during the Dark and Middle Ages.
(e) The origins and development of settlement patterns during the post-Roman era in Central Wales.
(f) Research into any approved aspect of the historical development of West and Mid-Wales.
(g) To develop and maintain an existing computer data base of Welsh Topographical Pictures.
(h) The role of rural planning in shaping the society and economy of rural Wales.
(i) Aspects of the housing market in rural Wales.
(j) Family and Community Care for the elderly in a rural environment.
(k) The impact of climate and weather on tourism in Wales.

Application forms and further particulars are available from the Academic Registrar, Saint David's University College, Lampeter, Dyfed SA48 7ED.

The closing date for the receipt of application forms is 4th March, 1981.

UNIVERSITY OF OXFORD

DEPARTMENT OF METALLURGY AND SCIENCE OF MATERIALS AND WOLFSON COLLEGE

C.E.G.B. Research Fellowship on Solid State Battery Materials

Applications are invited for a CEGB Research Fellowship on micro-structural studies of solid state battery materials, of interest to the CEGB, tenable in the Department of Metallurgy and Science of Materials, in association with a Junior Research Fellowship at Wolfson College. The appointment will be for an initial period of three years from 1 April 1981, or as soon as possible thereafter, with a possible extension for a further two years. The salary of the Research Fellow will be according to age on the University Lecturer scale (£5,505 to £12,370 under review). An accommodation allowance and standard Common Table will be provided.

Further details may be obtained from the Administrator, Department of Metallurgy and Science of Materials, University of Oxford, Parks Road, Oxford OX1 3PH, to whom applications including a curriculum vitae, details of research experience and intentions, and the names of three referees should be submitted by 28 February 1981.

WELLINGTON

VICTORIA UNIVERSITY
New Zealand

FELLOWSHIP IN METEOROLOGY

Applications are invited for a Fellowship in Meteorology. The appointment will be for three years and will be made at the Lecturer or Senior Lecturer level. It is available from July 1, 1981.

Applicants should have research interests either in dynamic meteorology or in topics of synoptic meteorology which involve numerical data analysis. The appointee would be expected to encourage the development of postgraduate research in meteorology within the University, possibly at Masters level, which may derive from interests and activities in various University departments; and to conduct such teaching in the subject, at Honours and undergraduate level within the various relevant scientific disciplines as shall be mutually agreed with the departments concerned. In particular, this teaching would include an Honours course on Dynamic Meteorology within the curriculum of the Department of Mathematics.

He or she would also be expected to contribute (on an approximately half-time basis) to the general teaching of mathematics and for this reason an interest in numerical analysis would be particularly desirable.

The salary scale for Lecturers is NZ$18,229-$22,400 and for Senior Lecturers is NZ$22,960-$26,270.

The closing date for applications is 30 April, 1981.

Conditions of appointment may be obtained from the Registrar of the University, Private Bag, Wellington, New Zealand, or from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

SURREY

THE UNIVERSITY

RESEARCH STUDENTSHIPS IN STATISTICS

Following the appointment of Professor P. M. Robinson as Professor of Statistics and Operational Research, the University has created two Research Studentships in Statistics for postgraduate study leading to Ph.D. The studentships will be approximately equivalent in value to SRC Research Studentships and will be awarded initially for one year from October, 1981, renewable up to a maximum of three years subject to satisfactory progress.

Applicants must hold, or expect to gain, a first or good second class honours degree in Statistics or Mathematics. Research interests of the Statistics Group include time series analysis, asymptotic theory, discrete data, Bayesian statistics, econometric theory, robustness, applied statistics.

Applicants are invited to write in the first instance to Professor P. M. Robinson, Department of Mathematics, University of Surrey, Guildford, GU2 5XH.

Books and Prints

READING MATTERS. Order U.S. Books through us. In and Out of Print Titles available. New Titles and Subject Catalogues. Institutional enquiries welcomed.—Write: Laurel Stavis and Nancy Rosen, Reading Matters, 30 Brattle Street, Cambridge, MA 02138 U.S.A.

Polytechnics

Strathclyde Department of Education

GLASGOW COLLEGE of TECHNOLOGY

The Glasgow College of Technology, a major polytechnic institution of higher education, invites applications for the following posts:

HEAD OF DEPARTMENT

HUMANITIES. Head of Department Grade 14—£15,081. The Department comprises four sections: Communication Studies, Modern Languages, History and Geography, largely taught to degree level. The person appointed must be able to offer academic expertise in at least one of these areas, but will be expected to give leadership to the department as a whole. High academic qualifications are sought together with good experience in higher education, including research.

SENIOR LECTURERS/LECTURERS

OPHTHALMIC OPTICS. Senior Lecturer 'A'. Applicants should be in possession of a degree and professional qualifications in ophthalmic optics or an appropriate research degree and standing in the field of ophthalmic/visual research. Interests in ophthalmic instrumentation or applied vision would be an advantage. Research and consultancy are encouraged.

COMMUNICATION STUDIES. Lecturer 'A'. To teach on a variety of existing degree and diploma courses and to make a contribution to a proposed BA in Communication Studies. A good first degree with post-graduate experience in the mass communication/cultural studies sphere is sought.

MANAGEMENT STUDIES. Lecturer 'A'. The successful candidate will be required to teach Organizational Studies and one or more of the following subjects: Personnel Management, Industrial Relations, Marketing, Production Management and Business Policies on Professional, Diploma, Degree and Post-Experience courses according to his/her qualifications and experience.

OPHTHALMIC OPTICS. Lecturer 'A'. Applicants should be in possession of a degree and professional qualification in ophthalmic optics. Interests in clinical studies or visual optics would be an advantage. Research and consultancy are encouraged.

PHYSICS. Lecturer 'A'. Candidates should possess an Honours degree in Physics or its equivalent, together with academic or industrial post-graduate experience in physics. Experience in one or more of the following fields would be an advantage: physical electronics especially magnetic properties of materials, acoustics or laser holography.

SALARIES

SENIOR LECTURER 'A'. £10,425 to £11,601 (Bar) to £13,170.
LECTURER 'A'. £5,916 to £10,440 (Bar) to £11,217.

Placing on the salary scale will be given for relevant experience. Forms of application and further particulars can be obtained from the Glasgow College of Technology, Cowcaddens Road, Glasgow G4, to whom completed applications should be returned not later than 14 days after the appearance of this advertisement.

EDWARD MILLER, Director of Education

RGIT

ROBERT GORDON'S INSTITUTE OF TECHNOLOGY, ABERDEEN
GRAY'S SCHOOL OF ART

LECTURER or SENIOR LECTURER in Graphic Design

LECTURER or SENIOR LECTURER in Jewellery

Senior Lecturer: £10,609-£13,281 per annum (under review).
Lecturer: £5,959-£11,307 per annum (under review).
Assistance with removal expenses.
Details from Secretary,
Robert Gordon's Institute of Technology,
Schoolhill, Aberdeen, AB9 1FR.
(0224 574511)

SHEFFIELD CITY POLYTECHNIC

DEPARTMENT OF COMPUTER STUDIES

LECTURER II/SENIOR LECTURER IN COMPUTER STUDIES

The successful applicant will be required to teach Computer Studies to specialist and non-specialist students on a range of degree and diploma courses. Applicants should possess good academic qualifications and be able to offer specialist knowledge in at least one of the areas of Computing Science or Information Processing. Industrial experience is desirable.

The Department provides a lively and stimulating working environment and is responsible for a wide range of academic work.

Salary Scale: LII, £6,612-£9,702; SL, £9,062-£10,539 (bar)-£11,391.

Application forms and further details are available from the Personnel Officer, Sheffield City Polytechnic (Dept. THES), Halfords House, Fitzalan Square, Sheffield S1 2BB, or by phoning 20911, ext. 387. Completed forms should be returned by 23rd February.

Polytechnics continued

NORTH STAFFS POLY

DEPARTMENT OF COMPUTING

FULL-TIME AND TEMPORARY POSTS AT SENIOR LECTURER/LECTURER GRADE II IN COMPUTING

Applications are invited for posts of Senior Lecturer/Lecturer Grade II in the Department of Computing. Candidates should be able to offer a specialist area of computing at Honours Degree level such as Data Processing, Systems Analysis, Information Systems, but applicants with other teaching experience in computing will be considered.

In addition, applications are invited for temporary posts of Senior Lecturer/Lecturer Grade II in the Department of Computing. Candidates should be able to teach Data Processing and Systems Analysis, but applicants with other teaching experience in computing will be considered. These latter two posts are for a period of two years only but there may be the possibility for transfer into full-time posts later.

Salary scale:
Senior Lecturer £8,052-£10,539 (bar)-£11,295
Lecturer Grade II £6,012-£9,702

Application forms and further details may be obtained from the Deputy Director, (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.

Head of Management Education

Kingston Regional Management Centre

Kingston Polytechnic

To be responsible for management education in this large Management Centre, including a range of management development programmes, Diploma in Management Studies courses and the development of a new Masters degree in Industrial Management.

Applicants should have substantial experience in management education and in industry.

Salary in range Head of School Grade VI: ie £13,995-£15,132 ps plus London allowance £493 pa.

Further details and application forms (to be returned by 2nd March) from Academic Registry, Dept. AO, Kingston Polytechnic, Penrhyn Road, Kingston-upon-Thames, KT1 2EE. 01-549 1366.

NORTH STAFFS POLY

ASSISTANT DIRECTOR & DEAN OF FACULTY OF BUSINESS AND SOCIAL SCIENCES

Applications are invited for the above post, duties to commence as soon as possible.

Salary: £17,166 per annum

Further details obtainable from the Clerk to the Governing Body, Beaconside, Stafford ST18 0AD, to whom completed applications should be returned by not later than 23rd February, 1981.

Trent Polytechnic

DEPARTMENT OF BUSINESS STUDIES

RESEARCH ASSISTANT/ DEMONSTRATOR

(£4,683-£4,884-£5,085)

Comparative Studies in European Business

A good Honours graduate required to investigate the development of the micro-electronics/computer industries in the UK and Germany. The project will take the form of a comparative analysis which will seek to investigate the structure, concentration and performance of the industry in each country. The successful candidate will be expected to register for an M.Phil/PhD, and assist the teaching of industrial economics, of degree and diploma courses.

Further details and form of application available from The Registrar, Director, (Administration), Trent Polytechnic, Burton Street, Nottingham NG1 4BU.

RE-ADVERTISEMENT

SUNDERLAND POLYTECHNIC

Faculty of Pharmaceutical Sciences

Department of Pharmaceutics

Applications are invited from suitably qualified and experienced candidates for the post of:—

HEAD OF DEPARTMENT OF PHARMACEUTICS

with possible election to a

PROFESSORSHIP

Salary scale: Head Grade V £12,942-£14,382 per annum.

Applicants should be registered Pharmacists, have high academic qualifications and appropriate academic and/or professional experience.

The Head will be required to provide academic leadership in programmes of course and curriculum developments and have the ability to initiate and develop research.

Sunderland Polytechnic has agreed to the establishment of a Professorship and the appointee will be eligible for consideration.

An application form and further particulars may be obtained from the Personnel Officer, Sunderland Polytechnic, Langham Tower, Ryhope Road, Sunderland SR2 7EE. Closing date 26th February, 1981.
Previous applicants need not re-apply.

SUNDERLAND POLYTECHNIC

oxford polytechnic

DEPUTY DIRECTOR

Salary £20,079

DEAN OF THE MODULAR COURSE

Salary £18,171

Further particulars and application forms may be obtained from the Clerk to the Governors, Oxford Polytechnic, Oxford OX3 0BP, to whom applications should be submitted not later than 9 March, 1981, naming three referees.

LONDON, N.7

THE POLYTECHNIC OF NORTH LONDON

FACULTY OF ECONOMIC AND ADMINISTRATIVE STUDIES

DEPARTMENT OF ECONOMIC AND ADMINISTRATIVE STUDIES

LECTURER (Grade II/I) IN BANKING AND ACCOUNTING

To teach on the CNAA honours degree courses in Accounting and in Business Studies, and the Association of Certified Accountants courses. Preference will be given to applicants able to teach financial management.

Applicants should possess a good honours degree or a higher degree in accounting. A professional accounting qualification would be an advantage.

Salary scale: Senior Lecturer £8,052 to £10,539 (bar) to £11,295 plus £759 London Allowance; Lecturer (Grade II) £6,012 to £9,702 plus £759 London Allowance (subject to formal approval).

Initial point for the post of Lecturer (Grade II)/ Senior Lecturer Scale will be determined by an attractive salary requirement.

Application form and further particulars can be obtained from the Establishment Officer, The Polytechnic of North London, Prince of Wales Road, London N7 8DB.

Closing date: 14 days from the appearance of this advertisement.

Colleges and Departments of Art

LONDON

INNER LONDON EDUCATION AUTHORITY

CENTRAL SCHOOL OF Art and Design, Southampton Row, London (Tel: 01-405 0004)

DEPARTMENT OF Film

Lecturer required for Basic Course. Part-time.

SCULPTURE

G.L. SCULPTURE LECTURER (three days a week)

PAINTING

G.L. PAINTING (three days a week)

PART-TIME LECTURER

Part-time Lecturer required to teach Life Drawing and Painting.

Application forms and further particulars from the Secretary, Central School of Art and Design, Southampton Row, London WC1B 4AP (Tel: 01-405 0004).

Closing date for receipt of completed application forms: 27 February, 1981.

Colleges and Departments of Art

KENT

COUNTY COUNCIL EDUCATION COMMITTEE

HEAD OF THE DEPARTMENT OF HISTORICAL AND DESIGN STUDIES

PRINCIPAL LECTURER

Applications are invited for the above post for appointment in September, 1981. Candidates should have experience in the history of art/design together with administrative ability and an interesting programme of work on C.N.A.A. B.A. (Honours) courses within an institute of further or higher education.

Further details and application forms from the Chief Administrative Officer, Canterbury College of Art, New Dover Road, Canterbury CT1 3AN. Completed application forms to be submitted within three weeks of the appearance of this advertisement.

Colleges of Education

CAMBRIDGE

HOMERTON COLLEGE

LECTURES in EDUCATION

Owing to retirements three vacancies arise in the Education Department and permanent posts starting in September 1981.

(1) A full-time post. Candidates should be suitably qualified to teach courses in philosophy and sociology of education and in the supervision of teaching. Will also be expected to conduct courses and to supervise courses and direct projects in some appropriate area of teaching in primary education.

(2) A part-time post which could be up to full-time. Candidates should be suitably qualified to teach courses in the philosophy of education and in the supervision of teaching. Will also be expected to conduct courses and to supervise courses and direct projects in some appropriate area of teaching in primary education.

(3) A part-time post which could be up to full-time. Candidates should be suitably qualified to teach courses in the history of education and in the supervision of teaching. Will also be expected to conduct courses and to supervise courses and direct projects in some appropriate area of teaching in primary education.

Applications should be made on a standard form obtainable from the Principal, Homerton College, Cambridge CB2 2PH, to whom they should be returned by 9 March, 1981.

Colleges of Higher Education

DURHAM COUNTY COUNCIL

NEW COLLEGE DURHAM (GROUP 8)

POST OF DEPUTY PRINCIPAL

RE-ADVERTISEMENT

Applications are invited from suitably qualified and experienced candidates for the above post.

New College Durham was established on 1 September, 1977, as the result of a merger of the Durham Technical College and Neville's Cross College of Education. It provides a very wide range of courses as a community college and is continuing to diversify its Higher Education.

The College is placed in Group 8 under the Burnham Further Education Committee's Report. The salary attached to the post will be at a fixed point within the range for a Group 8 Vice-Principal currently £16,680 per annum.

A good Honours graduate is looked for with sound and wide experience in Further Education and proven administrative ability in a senior post in education. This is a challenging and rewarding appointment.

Further particulars may be obtained from the Principal, New College Durham, Framwellgate Moor Centre, Durham, on receipt of a stamped addressed envelope.

The closing date for applications is Friday 27 February, 1981. Previous candidates wishing their applications to be reconsidered should so indicate by letter.

Roehampton Institute

Digby Stuart
Froebel
Southlands
Whitelands

Courses offered by the Roehampton Institute of Higher Education are in combined studies leading to university first and higher degrees. The Institute now seeks to make the following appointment at Grade V:

Head of Department of Sciences

Applicants will be expected to be of high quality in their own field of academic interest and to demonstrate the ability to provide effective leadership to a Department (teaching courses at degree level) in its future development.

Salary: £12,942-£14,382 plus London Allowance £759.

Further particulars and application forms may be obtained from R. A. Fennell, Assistant Secretary, Roehampton Institute of Higher Education, Richardson Building, Digby Stuart College, Roehampton Lane, London SW15 5PH.

Closing date for applications: 2 March, 1981.

EDGE HILL COLLEGE OF HIGHER EDUCATION

An Associate College of the University of Lancaster

St. Helens Road, Ormskirk, Lancashire

DEPARTMENT OF EDUCATION

1. LECTURER II OR SENIOR LECTURER
2. LECTURER II

IN THE TEACHING OF MENTALLY HANDICAPPED CHILDREN

Applications are invited from graduates for these two posts, both from September, 1981. The persons appointed will contribute to the major option on the Teaching of Mentally Handicapped Children within the B.Ed. (Primary Specialism) degree programme and the in-service course leading to the Advanced Certificate in the Teaching of Mentally Handicapped Children.

For both posts relevant degree qualifications are essential together with considerable experience in teaching mentally handicapped children.

Salary Scale: Lecturer II £8,012 x 10 increments to £9,701; Senior Lecturer £9,952 x 6 increments to £11,292.

Burnham Further Education Conditions of Service apply.

Further particulars of both posts may be obtained from the Secretary to the Deputy Director, Edge Hill College of Higher Education, St. Helens Road, Ormskirk, Lancashire L39 4QP.

Completed application forms should be returned to the Deputy Director, Edge Hill College of Higher Education, St. Helens Road, Ormskirk, Lancashire L39 4QP.

Closing date: 2 March, 1981.

COUNTY OF AVON

BATH COLLEGE OF HIGHER EDUCATION

Newton Park, Newton St. Loe, Bath, Avon BA2 9BN

(Re-advertisement)

Due to the retirement of the present holder, applications are invited for appointment as

HEAD OF MUSIC

with effect from 1st September, 1981. The College offers a full Honours (Music) Degree Course and music is a major component within the College and other teacher training courses. An academic and professional qualifications and good experience are required for this appointment.

Salary will be on the scale for Head of Department Grade IV of the Burnham Further Education Scale, £11,592 to £13,332.

Applications (two copies) should be submitted to The Principal, from whom further particulars may be obtained, not later than 27th February, 1981, with names and addresses of three persons to whom reference may be made, should be lodged with the Establishment Officer. Universities should not be approached unless candidates have been informed that this will be done. Candidates should also indicate whether they wish their application to be considered for any other post in the College.

Colleges of Higher Education continued

Roehampton Institute

Digby Stuart
Froebel
Southlands
Whitelands

Courses offered by the Roehampton Institute of Higher Education are in combined studies leading to university first and higher degrees. The Institute now seeks to make the following FIXED-TERM appointments as soon as possible for a period to 31 August 1983:—

LII/SL IN

MUSIC THERAPY

To lead the development of work in Music Therapy with both children and adults, and to act as tutor to courses of training for intending therapists. Applicants should have experience as practising therapists.

LII/SL IN

PSYCHOLOGY

To teach on an undergraduate Foundation Course in Psychology and on TWO of the following courses in the first degree programme: Educational Psychology, Personality Studies, Research Methods, Development Psychology. Applicants should be graduates in Psychology and preferably have research experience and/or a higher degree in Psychology. Some teaching experience, including tutorial work is desirable.

Salary: £8,012-£11,295 plus London Allowance £759.

Further particulars and application forms may be obtained from R. A. Fennell, Assistant Secretary, Roehampton Institute of Higher Education, Richardson Building, Digby Stuart College, Roehampton Lane, London SW15 5PH.

Closing date for applicants: 2 March 1981.

Roehampton Institute

The Roehampton Institute of Higher Education is a recently established federation which now seeks to appoint at Head of Department Grade V an

INSTITUTE LIBRARIAN

A highly motivated person is required as soon as possible to organise and develop the library and learning resources throughout the Institute. The Institute Librarian will be responsible for an academic library of growing importance which supports a wide range of first and higher degrees associated with Education, the Arts and Sciences. Applications are invited from graduates, who are professionally qualified and with substantial experience in academic libraries.

Salary: £12,942-£14,382 plus London Allowance £759.

Further particulars and application forms may be obtained from R. A. Fennell, Assistant Secretary, Roehampton Institute of Higher Education, Richardson Building, Digby Stuart College, Roehampton Lane, London SW15 5PH.

Closing date for applications: 6th March, 1981.

CHELTENHAM

THE COLLEGE OF ST PAUL AND ST MARY

DEPARTMENT OF TEACHING STUDIES

PRINCIPAL LECTURER

(First and Middle Years of Schooling)

Applicants are invited from suitably experienced persons for appointment to the above post, which will be filled by a member of the Church of England College of Higher Education.

The successful candidate will be responsible for leading teams in the development and implementation of courses of initial training of professional education in respect of the age range three to nine years. The appointment will be dated from September 1, 1981.

Application forms and further particulars may be obtained from the Bursar, The College of St Paul and St Mary, Cheltenham, Gloucestershire GL50 4AZ. Telephone Cheltenham (0242) 35351. Completed forms should be returned by March 13, 1981.

NEWHAM

(London Borough of)

WEST HAM COLLEGE

Principal: W. E. Williams Dip.Pol.Sci. L.Econ (Oxon) 01-519-5244

LECTURER I—GENERAL AND COMMUNICATION STUDIES required as soon as possible

Salary £7,683 to £8,085 plus £759 London Allowance

Details of the post and an application form are available from the Secretary, West Ham College, Romford Road, London E15 4LZ (01-519-5244).

READING

BULMERSHE COLLEGE OF HIGHER EDUCATION

Required for September 1981 LECTURER IN THE PRIMARY EDUCATION to contribute to the experience of the first school age range.

Further details and application forms from the Principal (Principal) (01) Tony Morris, Dean of Education (Tel. Reading 67841).

Completed forms to be returned by 23rd February, 1981.

Librarians

BIRMINGHAM

THE UNIVERSITY

UNIVERSITY LIBRARIAN

Applications are invited for the post of University Librarian, to be appointed from a date to be arranged.

Salary in the professorial range, plus superannuation.

Further particulars obtainable from the Registrar, Department of Administration, P.O. Box 363, Birmingham, B15 2TT, to whom applications (12 copies) and three personal references should be sent by March 31, 1981.

Holidays and Accommodation

BRIGHTON/RICHMOND (family home) City/country. American student welcome. Tel: 01-876 7084.

Administration

The Associated Examining Board for the General Certificate of Education

Research and Statistics Officer

Applications are invited for the post of Research and Statistics Officer in the Research and Statistics Division at the Board's offices in Aldershot, Hampshire. The Division is concerned primarily with research in the field of educational measurement appropriate to the needs of the Board and with the compilation of data relating to GCE examinations, the preparation of these data for publication and the provision of statistical services within the Board.

Applicants should be graduates, preferably with a Higher Degree in a field related to the measurement of human attributes such as educational achievement. A sound knowledge of statistical methods commonly used in educational research and of computing techniques is essential.

The salary is aligned to the scales for academic University staff, the current AEB scale being £8,085 x nine annual increments to £11,575. The starting point on the scale will depend on qualifications and experience.

Further information, together with an application form, may be obtained from the Personnel Manager, The Associated Examining Board, Wellington House, Aldershot, Hampshire GU11 1BQ (Tel: Aldershot 23851), to whom completed forms of application must be returned not later than Friday, 27th February, 1981.

THE SCOTTISH COUNCIL FOR EDUCATIONAL TECHNOLOGY

OPEN LEARNING SYSTEMS PROJECT OFFICER

A three-year appointment for a new action-based project concerned with:

- Investigation
- Consultancy/Staff Development
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connected with OLS throughout Scotland.

Salary on a scale from £9,945 to £11,575 (under review).

Further details and application forms available from:
Graham Berry (Secretary)
SCET, 74 Victoria Crescent Road
GLASGOW G12 9JN. Tel.: 041 334 9314

BRISTOL POLYTECHNIC

Following the appointment of Mr. C. S. Hall, F.C.I.S., the present postholder, as Bursar and Secretary of the Administrative Staff College, Henley-on-Thames, the Governors of Bristol Polytechnic invite applications for the post of

CHIEF ADMINISTRATIVE OFFICER AND CLERK TO THE GOVERNING BODY

Applicants should have appropriate professional qualifications (and/or a degree) and relevant administrative experience. Membership of the Institute of Chartered Secretaries and Administrators might be considered an advantage.

Salary NJC Principal Officer 2 (ranges 8-10) from: £11,826 to £12,936 with effect from April 1981—under review.

Further details and application forms from Clerk to the Governing Body, Bristol Polytechnic, Coldharbour Lane, Frenchay, Bristol BS16 1QY. Closing date for applications: 27th February, 1981.

UNIVERSITY OF EAST ANGLIA

Norwich

Applications are invited from graduates with significant employment experience for the post of

ASSISTANT APPOINTMENTS OFFICER

In the CAREERS CENTRE

The person appointed will be expected to make a major contribution to the work of the Centre which provides a vocational counselling service to students and graduates of the University and maintains active links with employers, professional bodies and other academic institutions. Whatever their own occupational background has been, candidates should show evidence of achievement and initiative in their careers to date. For those not experienced in careers advisory work, in-service training by short courses and visits can be arranged. Salary will be on the scale £4,795 to £11,575 p.a. (under review) plus USS pensions.

Applications (one copy only) giving full particulars of age, qualifications and experience, together with the names and addresses of three persons to whom reference may be made, should be lodged with the Establishment Officer, University of East Anglia, Norwich NR4 7TJ (telephone 0603 56161 ext. 2196), from whom further particulars may be obtained, not later than 27th February, 1981. No forms of application are issued. In naming three referees you are particularly requested to give only the names of those who can be approached immediately.

Research

LONDON

THE UNIVERSITY

THE LONDON SCHOOL OF ECONOMICS

RESEARCH OFFICERSHIP OR RESEARCH FELLOWSHIP IN ECONOMICS

Applications are invited for appointment, for up to three years, to posts in Public Expenditure. Applicants for Research Officerships or Research Fellowships (on a probationary basis) will be in the field of Social, Industrial Economics or Econometrics.

Candidates should have knowledge of the international trade in arms.

Appointment will be on the scale for Research Officers of £6,906 to £8,295 (£7,755 to £8,295 from 1 October) or of £8,295 to £11,575 (£8,295 to £9,045) for Research Fellows; there is a £759 London Allowance in each case. In assessing the starting salary, consideration will be given to experience and to any superannuation.

Application forms and further particulars are available on receipt of a stamped addressed envelope from the Administrative Officer, (R.410), The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. Closing date for applications: 1 February, 1981.

NOTTINGHAM

THE UNIVERSITY

POST-DOCTORAL RESEARCH FELLOWS (Two)

are to be appointed to conduct research into the effects of drugs on [illegible] Applications, giving full details of qualifications and experience, together with the names of two referees, should be sent to Dr. [illegible] Department of Pharmacology, University Park, Nottingham NG7 2RD, from whom further particulars may be obtained.

READING

THE UNIVERSITY

RESEARCH ASSISTANT

TRAFFIC EDUCATION

A graduate TEACHER with recent experience in the Reading based Courses in secondary education required for a fixed period of two years from April 1981 to undertake development of a new in-car education programme. Responsibility will be one of the leading road safety projects in the country.

Applicants should be under 30 and have a full driving licence. Salary £6,012 to £9,702 per annum inclusive of London Allowance.

Details apply in writing, giving full curriculum vitae, and two referees to The Registrar, University of Reading, Whiteknights, Reading RG6 2AH, quoting reference 1/RW. Closing date: February 27, 1981.

HULL

THE UNIVERSITY

DEPARTMENT OF GEOLOGY

RESEARCH ASSISTANT

Applications are invited for a Research Assistantship to work on a project studying the extent to which fossil land snail faunas have been modified by Holocene climatic changes. The project is a collaborative investigation with the Department of Biological Sciences and will be supervised jointly by Dr. [illegible] and Dr. [illegible].

Candidates should have, or expect to obtain, a good honours degree in Geology, preferably with some subsidiary biological interest. Ability to use the successful candidate will be encouraged to register for a higher degree (Ph.D).

Salary will be on the scale £5,952-£6,984 (under review) with initial placement according to age, experience and qualifications.

Applications, giving details of age, qualifications and experience, and addresses of two referees, should be submitted by 28 February, 1981, to the Secretary, Department of Geology, The University, Hull HU6 7RX, from whom further particulars may be obtained.

LONDON

THE UNIVERSITY

CHELSEA COLLEGE

NURSING EDUCATION RESEARCH UNIT

RESEARCH ASSISTANT

Applications are invited from NURSING EDUCATORS with experience and interest in RESEARCH for the post of RESEARCH ASSISTANT in this research unit, which is commissioned and financed by the Department of Nursing Studies, Social Security, and which forms part of the Nursing Studies Department of Nursing Studies at Chelsea College. The project is a three year study of the factors influencing the quality of nursing care in the context of the nurse/patient relationship. Experience will be sought in the following areas: research experience, experience of nursing education, experience of nursing practice, and experience of nursing administration.

Salary according to qualifications and experience within the scale £6,012 to £9,702 per annum (plus £759 London allowance).

Further particulars and application forms from the Personnel Officer, Chelsea College, Pulton Place, Fulham Road, London SW6 5PR. Closing date: February 21, 1981.

Courses

College of St. Mark & St. John

SPECIALIST CAREERS' OFFICER, AP4, AP5

A qualified experienced Officer is required to develop and run a full Careers Counselling Service at this College of Higher Education. Applicants should preferably have had industrial or commercial experience as well as experience of advisory work. Linked with this work will be some involvement in the college's publicity work.

Salary: (£6,852-£7,212) inclusive. Starting point based on qualifications and experience.

Further information and application forms obtained from the Principal, College of St. Mark and St. John, Derriford Road, Plymouth PL6 8BH.

Closing date 3rd March 1981.

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General Vacancies

HISTORIANS required for a number of private/public 30-day tours in the USA, qualified persons in 20's are historians/tour director. Applicants should have considerable knowledge of material/cultural history with an architectural/military bias. Ability to communicate essential, in addition to an accommodation and meals all first class hotels on $2000 per tour is possible. Please send C.V. and photograph to Box No. 0713V, The Times, W.C.1.

Appointments Wanted

BRITISH CITIZEN, M.A. American University, American Government, Economics, Law, seeks Box No. 0712 [illegible]

Overseas

Dean of the College

Applications and nominations are invited for the position of Dean of Teachers College. The Dean is the chief executive officer of the Faculty and exercises general supervision over the College's activities in the areas of instruction, research, and field services. Day-to-day responsibilities revolve around academic planning; budget allocation; policies affecting faculty members, students, and staff members; and the continuing leadership of program development. It is expected that the Dean will meet the criteria for a tenured appointment to the Faculty.

Individuals wishing to apply for the position should send curricula vitae and lists of references to President Lawrence A. Cremin, Teachers College, Columbia University, New York, New York 10027, prior to March 15, 1981. Nominations for the position are also welcome by that date. Teachers College is an affirmative action, equal opportunity employer.

Teachers College
Columbia University

nihe limerick

THE NATIONAL INSTITUTE FOR HIGHER EDUCATION

EDUCATIONAL TECHNOLOGIST

The person appointed to this new academic post will report to the Registrar and be responsible for ensuring that the best and most appropriate educational technology is applied within the Institute's programmes of teaching and research.

Applicants should have substantial teaching experience at third level with a demonstrated ability to devise practical solutions to specific teaching/learning problems. The person appointed will be expected to make a significant contribution to the continuing process of curriculum design, development and assessment. Applicants will be expected to demonstrate a high level of academic achievement.

SALARY SCALE: IR£9,970—IR£14,289 p.a.

Application forms, available from the Personnel Office, The National Institute for Higher Education, Limerick, Ireland, to be completed and returned by 15 March, 1981.

AUSTRALIA
THE UNIVERSITY OF WOLLONGONG
Appointment of
VICE-CHANCELLOR

The University is seeking a Vice-Chancellor to replace Emeritus Professor L. Michael Birt, C.B.E., who leaves in August 1981 to take up appointment as Vice-Chancellor of the University of New South Wales.

The University invites enquiries from those willing to be considered and also invites suggestions as to persons suitable for appointment.

All correspondence should be marked "Confidential" and addressed to the Chancellor, the Hon. Mr. Justice R. M. Hope, University of Wollongong, P.O. Box 1144, Wollongong, N.S.W., 2500, Australia, by 30th April, 1981.

Birzeit University
West Bank, via Israel
BUSINESS ADMINISTRATION AND ECONOMICS

Teaching posts in this independent Arab University are available for lecturing in business studies and economics, starting in September, 1981. Teaching is in English. Candidates should have a library's PhD or MA+master's degree with experience. Interviews are in London. Transportation and fringe benefits paid. Salary dependent on experience.

For application and further information write to the Registrar, Friends of Birzeit, 13 Bolingbroke Grove, London SW11. Application forms must be completed and returned by 15 March, 1981.

UNIVERSITY COLLEGE GALWAY
IRELAND

LECTURESHIP IN PSYCHOLOGY

Applications are invited for the above statutory post.

Salary scale (under review): IR£10,846 x (7)-IR£15,057.

Closing date for receipt of applications 27 March, 1981.

Further information may be obtained from the Registrar, University College Galway.

CANADA
THE UNIVERSITY OF MANITOBA
DEPARTMENT OF STATISTICS

Applications are invited for a two-year appointment commencing July 1, 1981, at the ASSISTANT PROFESSOR level.

Salary will be commensurate with qualifications and experience. (The 1980-81 floor for assistant professors is $20,324.00 (Can.).) Duties will include teaching, research and consulting. Candidates from all areas of statistics are encouraged to apply, although the Department is particularly interested in hiring an applied probabilist.

Send application, including an updated curriculum vitae and names of three referees, to Dr. Lal K. Chan, Head, Department of Statistics, The University of Manitoba, Winnipeg, Manitoba, Canada, R3T 5N7. The University encourages both women and men to apply for this position and especially invites applications from Canadian citizens, permanent residents and others eligible for employment in Canada at the time of application.

DEPARTMENT OF BIOLOGICAL SCIENCES
DURBAN

Applications are invited from suitably qualified persons, regardless of sex, religion, race, colour or national origin for appointment to the post of

LECTURER IN BIOLOGICAL SCIENCES

Training and/or experience in Molecular Biology/Biochemistry, Genetics, or Biology of Microorganisms would be regarded as a recommendation.

The salary scale attached to the post is: R9,150 x 600-R13,350 x 750-R14,850 per annum.

The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, a service bonus of 9% per cent of one month's salary is payable subject to Treasury regulations.

Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidy schemes, long leave conditions and travelling expenses on first appointment are obtainable from the Registrar, University of Natal, King George V Avenue, Durban, South Africa, 4001, with whom applications on the prescribed form, must be lodged not later than 16th March, 1981, quoting the reference ADV. DS/81.

Fellowships and Studentships

OXFORD
ST. ANNE'S COLLEGE
SCHOOL TEACHER STUDENTSHIPS

The College invites applications from men and women primarily engaged in Sixth Form teaching for SCHOOL TEACHER STUDENTSHIPS tenable in Hilary or Trinity Term 1982 and 1983.

Further particulars may be obtained from the College Secretary and Registrar to whom applications should be sent by Saturday, April 4, 1981.

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Union view

Tarnishing of the golden age

A curious irony has recently been highlighted by a DES statistical bulletin on trends in entry to full-time higher education. Whereas the social and public pressure for equal opportunities for women is marked as a movement of the mid-seventies, it is becoming increasingly clear that the golden time for women in higher education was back in the less enlightened late 1960s. This is borne out, too, for academics. We were recently informed in the *TIMES* that the current position for women academics is far from rosy. In the old days of separatism women's colleges provided professorial posts for women that were safe havens of their sex; even principal's posts went to women; and women lecturers abounded. With the coming of integration the male student was frequently heralded by the male lecturer, and more of them, and the male professor. Even the male principal. In an equal world it has suddenly become clear that the removal of safe havens on both sides of the sexual fence does not necessarily mean more and better opportunities for women academics. The converse appears to be the case.

Even in polytechnics, the new institutions especially tailored for the needs of the new age, the position of the woman academic is no more secure. It is rare to find a woman head of department, rarer to discover a woman vice principal, and unknown to appoint a woman director. One cannot be unaware of the type of head of department who proudly remarks that he would never appoint or promote a woman lecturer. Are women justified in contending that they need to be head and shoulders above all competing men in order to be offered a post? (These suspicions were confirmed for school teachers in a study undertaken by the NUT.)

Life a decade ago appears to be the golden era for women students. The teacher training colleges were still flourishing and the teaching profession welcomed women with both one and two A levels. The age participation rate for 18-year-old women stood at over 13 per cent in 1972 and included many who did not have the two A level entry qualification now demanded. Three quarters of all candidates for teacher training are women: with the drastic reduction in places available came the consequent falling away of the ability of girls to find themselves a suitable niche in higher education. By 1978 only 10.6 per cent of women at 18 were entering higher education, as against 14 per cent of men. The country is therefore losing potential talent from higher education that it can ill afford, particularly in view of the fact that we offer higher education to a smaller percentage of our population than do our industrial competitors. Both the Select Committee Report on higher education and the Macfarlane Report point out our failure in this respect.

The success of the teacher training system in the past underlined the artificiality of the distinction between two A level and one A level achievers. Similarly, the record of the Higher National Diploma courses which offered entry with one A level in science and commerce subjects proved valuable. But the teacher training openings have disappeared and the HNDs are dying. Are we not, then, in danger of producing a vacuum in our Higher Education system: training students to one A level standard, and then offering them nowhere to go? Finneston has recognised the problem, and for the area with which he was concerned, proffered a solution: the Higher Engineering Diploma, with one A level entry. There is an undeniable case for arguing that it is from this pool that some of the country's needs for highly trained technicians can be met.

Would this, then, provide a way forward for girls? Well, yes, but only if we can deal with the problem of girls' curricula. The Secretary of State for Education, in a speech at the Girls' School Association's conference in London in November called upon girls to be more adventurous in their choice of career, and to go into engineering, technology and production-based industries. At present, barely over 3 per cent of engineering students are women; there are few chemists and fewer physicists. A report which will be published this month has studied how far school curricula have been affected by the necessity to offer equal opportunities for women. The result is, disappointingly, that very little change has come about. One well-established mixed grammar school offers a choice on entry of science or domestic science. Is it surprising that most girls opt for domestic science, thereby cutting themselves off, at age 12, from all possible contribution to the needs of British industry?

Would it make sense to argue for the provision of not only a Higher Engineering Diploma, but similar diplomas in a range of subjects throughout commerce and science and, dare I say it, arts? For while we await the revolution in curricula which will encourage women to become engineers, and I am certain they have the talent for it, we have a current system that produces large numbers of able women with A level English literature. There should be ways forward for them.

Critics can argue that the golden age of the late 1960s was a fortuitous circumstance: the needs of the country for more teachers happened to coincide with what women had to offer. Now the needs are different: the pressure for enlightened curricula to enable women to fulfil the new needs is paramount; as is the necessity to devise higher education courses which will properly make use of their talents.

In the world of academics, to return to my earlier theme, perhaps the recent findings should make us all beware of the cult of tokenism. Such a cult, as it has grown up in the United States, has to be avoided. It is a curious, and interesting fact, that 1980 has produced two women academic trade union leaders, of AUT and APT. Are we to take this as the assuaging of a mild guilt complex, or, rather, an enlightened symbol of what might be?

Heather Eggins

The author is chairman of the Association of Polytechnic Teachers.

The elusive art of inaudibility

It is important to remember, when attending a literary tutorial, that your real ambition is to qualify for admission to a Trappist monastery. For although the general rules of this particular order have now been relaxed in order to allow the membership of women, the particular rule about the need for complete silence is still very much in force. Naturally, if actually spoken to by the tutor, you must make some kind of reply. But it must never be fully audible, and it goes without saying that you personally should never volunteer either a comment or a question. For you will find, if you remain silent for long enough, that the tutor will be embarrassed into asking all the questions as well as providing all the answers. This is, as Hamlet observes, "a consummation devoutely to be wished", since it ensures that those who have chosen to specialize in a university discipline centred round the idea of communication, do not use up their own energy in idle discussion as to the merits or defects of a particular work of literature, and do not wear out their vocal chords in the tedious rehearsal of the ethical, religious or political issues raised in the works of George Eliot, Milton, Sartre or Thomas Mann.

It is of course essential, if you are going to preserve this silence in the literary tutorials which the British tax-payer so generously subsidizes, that you should not read the book. For if you were to do so, you might be provoked into asking a question or expressing an opinion; and this is well known to be bad form. It singles you out as a weirdo and provides the tutor with an excuse not to use his own intellectual energy in trying to think out what to say next. It is also important, in this context, to prevent your self from developing any interest in the topics raised by some of the books which you are theoretically studying. Remember that you have come to the university in order to study literature, and that any diversion from this concern into the irrelevant by-ways of history, sociology, ethics or political theory is to be firmly resisted. Such matters are irrelevant to your purpose, and can only lead to fruitless consideration of matters which are not only incredibly boring in themselves, but are also most unlikely to provide the subject-matter for examination questions. Since, as your predecessors will have told you, the secret of passing examinations is to regurgitate in haste the lecture notes taken at speed, any attempt actually to think about the intellectual issues discussed in the books you are supposed to be studying can lead only to time-wasting and despair.

It is nevertheless not enough to come to the "university with the right attitudes or even to develop them when there. Some initial preparation is essential, even though most of it is relatively simple in nature. For example, it is important not to have received any religious education. To have done so would be to lay the basis for an understanding of the quarrels which occupied the writers of the Sixteenth, Seventeenth and Eighteenth Centuries, and would therefore risk creating an interest in the topics discussed in the texts laid down for study. This should be avoided at all costs, and it is equally essential to have refrained from all kinds of intense emotion. Since anyone who has experienced sexual passion, jealousy or frustration has *ipso facto* placed himself in a situation where the works of D. H. Lawrence, Proust or Racine are likely to be able to shed light on what has happened, it is best to have lived the first 18 or 19 years of one's life in a state of complete social and sexual isolation. Neither should one allow oneself, either before or after coming up to the university, to develop any interest in politics. To do so might make the study of French, English or German history or the Marxist approach to French or Spanish politics both interesting and comprehensible, and here again this is a danger against which all possible precautions should be taken. And you should, naturally, not remember the plot of the books you have read at school. Neither should you attempt to analyse that of the books you are supposed to read at the university, and you should never go out of your way to see any film version or television adaptation of a classic literary text that may have been recently made available. For to have seen *Sons and Lovers* on *BBC 2* might lead your jealous coevals to suspect that you missed the football match on ITV.

The habit of remaining silent during the whole 50 minutes taken up by a literary seminar also has another advantage, this time in the continued war between the generations that is perpetuated in any teaching situation. For it is essential to bear it in mind that your apparently new status as an undergraduate in no way changes your situation with respect to those paid to instruct you. Society may, theoretically, have imposed upon you the legal obligation of attaining your majority at the age of 18, but it is powerless to alter your attitude towards your teachers. They still remain the Enemy, just as they did when you were 13 or 14. Your main ambition should therefore remain that of trying to cause them to feel uncertainty and embarrassment, and only the means of doing this has changed. Instead of rowdiness, silence should be your weapon. Instead of boisterous high spirits, what the Army used to call "dumb insolence" should be your principal tactic. For it is certain that when she swine turn up their noses for the 13th time at the pearls cast before them, the purveyor of precious stones will inevitably come to suspect that his jewels are made of paste. If you greet all ideas, irrespective of their merit, with the same silent contempt, your teacher will eventually realize that he has been talking nonsense. Your aim will then have been fulfilled, and he will fall silent as well.

Philip Thody

The author is professor of French literature at the University of Leeds.

Don's diary

Thursday

Four months in Sweden, even without speaking Swedish, have made me very aware of the social contrasts between the society here and that in the United Kingdom. In particular, I have become more conscious of class. Not that there is much sign of class in Sweden, but I keep on comparing reactions here with those I would have expected at home, and the very absence of divisions between groups of workers is noticeable. The staff members at the Swedish Institute of Building Research are similar to those in the small university faculty at home, but there are none of the separate facilities for professional, technical, secretarial and domestic staff which are normal in the United Kingdom. The professional staff seem to work about as hard as my colleagues at home and the same is true of the secretaries, but the technicians and cleaners appear much more productive than their counterparts in the United Kingdom.

Friday

Tomorrow is the festival of St Lucia, the unique Swedish celebration of midwinter, of the return of the sun. Although it has adopted the name of a Christian saint it is obviously the direct descendant of old pagan festivals. To the Swedes "Lucia" seems as important as Christmas, and even work stops for the festival, though everyone goes to work (early). I arrive at 7.30 to find the Institute in almost Stygian darkness. The whole climate group are sitting round a big table in the experimental hall, which is lit by a few candles (shades of United Kingdom safety regulations), drinking "julglog" (which is mulled wine with raisins and almonds added) and coffee and eating ginger biscuits. This is apparently the traditional way to start the nearest working day to Lucia.

9 a.m. The final seminar of my visit. Again, the most noticeable thing to an Englishman is that not only the professional staff but also the secretaries, technicians and the workshop staff are interested enough to come in significant numbers. At the end of the seminar I find myself the unaspecting recipient of a memento of my visit. I can't remember us doing this for many of our visitors at Sutton Bonington. Our children were also given leaving presents by their classes in the Swedish schools they attended, which would also be unusual at home.

Saturday

Invited to Lucia party at the home of an American/Swedish couple, more Julglog. The wife is a sociologist at the research institute, her husband (American) works at the University of Lulea, about 500 miles north of Gavle. Sweden is a big country, there are only a couple of major towns on the way. On the pavement outside the house there are guttering candles, as there are on the drive and outside many other houses, and there are children in the streets in white robes carrying candles. Inside everyone is talking English — as most of the guests are from the local Anglo-Swedish community.

Sunday

Open day in the old part of Gavle, with craft and art exhibitions in many of the brightly painted timber houses. More candles in the street as a sign of welcome. Usually the Swedes are casual to the point of scruffiness, but today we see some indication of their real prosperity. Almost everyone is wearing beautiful fur or sheepskin coats. The weather may have brought them out, as it is about −10degC at mid-day. In the afternoon we go to the annual English Christmas service, conducted by the embassy chaplain from Stockholm. An excellent sermon and service in a simple modern church. Also a sad occasion for us as we say goodbye to friends we have made.

Monday

Awful weather. It is mild for Gavle, raining, and slush everywhere. At the institute I am tidying up loose ends, copying data sheets for analysis at home, and trying to complete a final set of measurements. Back to the flat to pack cases and car. By the evening it is snowing hard, nice to look at from behind triple glazing but a nuisance when taking luggage to the car. However, the children enjoy dragging our belongings along on the sledge, and it is much easier than carrying everything to the garage.

Tuesday

8.00 am. Off for Gotenburg, a 300-mile drive. It is −8°C and yesterday's rain has frozen nicely with several inches of snow on top. The main roads have been cleared, but there is no salt or grit to help until we get on to a Euro-route, about halfway; 150 miles on black ice makes me very thankful that we invested in a set of studded tyres when the snow came. All the locals own two sets of wheels and tyres, for summer and winter. The Saab is expected to behave well in these conditions (bought before the trip was planned), though it is rather overloaded with four of us, our luggage for four months and lots of paper inside, plus a full-length roof rack carrying more luggage plus the four wheels with summer tyres.

Wednesday

Gotenburg reminds me strongly of Edinburgh: stone buildings and low hills with the bones showing. Sweden's second city is also far enough from Stockholm to have the air of a capital itself.

The Thor Line terminal is easy enough to find, but embarkation is half an hour late (due to yesterday's gale). The ship is about half full, with the passenger list inflated considerably by the BBC film crew for the Triangle series. Happily, they seem to have finished and are in a holiday mood, though piles of equipment provide a hazard in unexpected corners.

Thursday

Breakfast in the ship's restaurant at £1.80 each, half price for the children, for as much as one can eat; is as good value as yesterday's smorgasbrod table. The economics contrast oddly with the comparatively grotty cafeteria, where a single cup of tea or roll costs 30p. For Britannia is three hours late into Fullxtowe—shades of British Rail—and one disgruntled passenger waiting on the car deck is complaining: "This is six times I have done this trip this year, and four of them have been over two hours late." I bet they do not have *that* in *Triangle*.

Then England. Driving on the left. No snow. Traffic jams and no by-pass to Ipswich. The Breckland, with roads as empty as those in Sweden. Current newspapers, news of Tony Benn's Labour Party and Maggie Thatcher's Conservatives; *us* and *them again*. Heavens, the Swedes think they have a crisis with one and a half per cent unemployed, and seem to act as a *nation*.

Jerry Clark

The author is lecturer in environmental physics at the University of Nottingham School of Agriculture.

Laurie Taylor

"Now then, children, I've got a little surprise for you this morning. A very special man is coming to see you."

"*Is it Father Christmas?*"

"No, Michael, Not Father Christmas."

"*Why not. I want Father Christmas. I want Father Christmas*".

"Quiet Michael. No, it's far too early for Father Christmas. Anyway, he's busy getting all the presents ready for next year, isn't he? Lovely, lovely presents for well behaved boys and girls. No, this is a very special man. And I think I told you his name after we'd played our running game on Tuesday. Remember? After we'd done 'Here we go round the mulberry bush.'"

"*Is it Jack Frost?*"

"No. But that's a clever guess, Rachel. It's certainly the weather when we might expect to see old Jack tiptoeing round the corner and touching the tips of the bushes with his frosty fingers. Brrrrr. Let's all have a little shiver and rub our hands together to get nice and warm. There. That's better."

"*Father Christmas?*"

"Michael. I thought we'd set... Yes, Sharon?"

"*Is he Officer?*"

"... good try, Sharon. Yes. A bit like 'officer'. But even more like... A big long word."

"*Prossifer.*"

"Put your hand up Michael if you've got something to say. There's a good boy. Don't just shout out."

"*Prossifer. Prossifer*"

"Well, that's very good. Quite near enough. The actual word is not 'prossifer' but 'professor'. Do you remember we had two other professors last term. All say it. PROF—ESS—OR."

"*PROF—ESS—OR.*"

"Very good. And look how your magic has worked. Here he is now, sat up straight everybody, remember. Altogether: 'Good morning professor', when he opens the door."

"*Good morning PROF—ESS—OR.*"

"Good morning ... erm ... infants. Let me introduce myself. I'm Professor Quintock. QUIN—TOCK."

"*PROF-ESS-OR QUIN-TOCK.*"

"Yes, yes. Quite. Now, I'm from the university, the WYWN-YV-ERS-ITY. That's the school up the road for very big boys and girls. Now, I've come to your little school today to tell you all a secret. You see, I'm head of the department of communication and media studies at the university. And do you know, we actually have a few—only a very few—places left in that department for very clever boys and girls. So why not go home tonight to your mummy and daddy, when I'm big I want to go to university to read communication and media studies? Shall we try that together? COMM-YU-NY-CA-TION."

"*COMM-YEN-ICK ATION.*"

"Good. AND MEE-DEE-A STUD-EES."

"*AND MEE-DEE-A STUD-EES.*"

"Very good. Well, thank you, Children. Now this many girls and boys might like to come to my big school. I see. Only two of you. Remember we show nice pictures like on the television. And some times you're very good, extra specially. Still only two. Well, that's very much. And thankyou, Teacher. Not too much interest in cheese in this class?

"Now, I'm afraid that, professor Quintock, I can't be because of prior commitments at the BBC. Thank you, Miss, for inviting us. Russian carrots are terrible."

LETTERS TO THE EDITOR

Marxism and morals in society

Sir,—Steven Lukes in his comment on the "illusory rhetoric of human rights" (*THES*, January 30) finds it paradoxical that Marxists make moral judgments and yet do not accept what he calls "universally applicable, morally based human rights".

But to reject an abstract and problematic concept of morality is not to reject morality as such. The fact that Marxists reject a mystical and ahistorical view of human rights (as expressed, eg, in the classic natural rights tradition) does not mean that they reject human rights when these are conceived *concretely* as the historical product of social struggle. Right, for Marx, can never be higher than the material conditions of society allow and this point makes human rights more rather than less important, for stripped of their mystifying origins, rights now come to life as the man-made, moral regulators of our social development.

Of course, these rights will vary from social formation to social formation, but this variety does not rule out an underlying continuity between the differing "historic" expressions. As Galvano della Volpe tried to demonstrate with his "egalitarian multiplier", the negative human rights of the liberal tradition must (insofar as they enhance the freedom of all and not just the few at the expense of the many) be "carried over" and embodied in the "positive" human rights of a socialist society—each "variety" reinforcing the efficacy of the other. Thus, human rights both vary—particularly as between capitalism and socialism—and yet are indivisible. In a society like our own where "positive" rights are especially under attack—the right to work, to education, to housing, to peace—this could lead to a situation in which the more traditional liberal freedoms are also placed in jeopardy.

While Lukes is right to complain about official hypocrisy and rhetoric, what this question requires is neither nihilism nor moralism but an approach which is both concrete and concerned. The Marxists may not have all the answers but they are at least on the right track.

JOHN HOFFMAN,
Department of Politics,
The University,
Leicester.

Sir,—Michael Freeman has completely misunderstood me (*THES*, February 6). My column about human rights (*THES*, January 30) was certainly not meant to "point towards Marxism" or to "undermine a theory which provides a moral ground for the condemnation" of oppressive regimes. I am far from refusing "to acknowledge a moral basis" for such condemnation: in previous columns I have written at length about human rights violations in Iraq, South Africa, Yugoslavia, Czechoslovakia, Turkey, Uruguay, Haiti, South Korea, El Salvador, and Cambodia.

I sought to make two points. First that Carter's politics of human rights was selective, inconsistent and ideologically self-serving. And second that it fostered the illusion that a genuine consensus on this subject is possible with Official Marxism which, if my argument is right, is essentially inhospitable to the very idea of human rights. I should have added, but did not, that nevertheless Carter's talk of human rights has given valuable comfort and cheer to those struggling for human rights, above all in South America.

Yours faithfully,
STEVEN LUKES,
Balliol College,
Oxford.

Sir,—Steven Lukes's article on human rights (*THES*, January 30) is sufficiently provoking as to require some comment.

Lukes asserts that: "... the very notion of 'human rights' is not one that can genuinely be universally subscribed to, given the belief-systems which currently divide the world".

In the above, Lukes places human rights in sneer quotes, thus making use of a typographical device in place of any argument to undermine the notion of human rights.

In addition: the substance of his assertion is that not everybody believes in human rights. However, the absence of universal agreement for a belief is not, in itself, a good ground for arguing that we cannot subscribe to that belief.

Yours faithfully,
B. SHAW.
30 Geoffrey Avenue,
Neville's Cross, Durham.

University of Trier

Sir,—It has been drawn to our attention—albeit at a rather late date—that your pages bore an article on us in the summer of last year (*THES*, July 11, 1980). There are several points of particular interest to the University of Trier which I should like to indicate.

In the first instance, we consider it a good thing that a young university be worthy of mention in the columns of so renowned and august a publication as your own.

Secondly, and more curiously, we came to know of your article by a somewhat circuitous route: last autumn we received a copy of the *Chronicle* of the University of Canterbury, Christchurch, New Zealand, in which your text had been used as the basis of a short article.

Thirdly, and less agreeably, the source on which you have relied for your article has made promiscuous use of facts and information. So for example from the fact that at the time of the report there were 4,000 registered students of the University of Trier and that the projected target was 6,000, it is concluded, with perplexing logic, that there are therefore 2,000 places "on offer", without taking into consideration that these places must first be provided. A similar case is the conclusion of information on Trier's delights": it is of course a question of whether information concerning the town of Trier in general or the university in particular is wanted, and whence this information be obtained: whether from the town's Tourist Information Bureau, or, as might perhaps be more pertinent, direct from the university. The inner logic of the further examples of syllogistic number-juggling cannot be disputed, but unfortunately, by what criterion is included in the premisses is that the earlier figures refer to the "Double-University" of Trier-Kaiserslautern, and therefore to two places of further education, but that the later figures refer only to Trier, after the division of the two sites in 1975.

Since, as I have already mentioned, your article has sounded echoes from as far away as the antipodes, I would greatly welcome it if you could see your way somehow to correcting the named points, even in spite of the lengthy interval—so to I suppose, the receipt of correct first-hand information is as important to you as it is to me. I would like to take the liberty of adding you to our mailing list, to include a brief selection of the most recent publications of our Public Relations Office for your perusal.

Yours sincerely,
Dr RAICH-KLEPPEL,
Public Relations Officer,
University of Trier,
Germany.

Macroeconomic modelling

Sir,—Paul Flather's article on macroeconomic modelling (*THES*, January 30) served a very useful purpose in opening up for public discussion the issues confronting both those doing the research and those providing the funds. We are grateful for that. In covering such a complex field it would be surprising if there were not a few issues needing clarification and I would like to take just three points.

● It was the council of SSRC which, on my advice, was the originator of the review and of the new macroeconomic committee. This initiative did not emerge from any difficulties within the economics committee but simply from council's decision to take a close look at an extremely important, and expensive, part of its research portfolio in a coherent and comprehensive way.

● Council also took the two decisions on funds for the national institute, on advice of course from the economics committee. Decisions on this level of funding are always the responsibility of the full council and indeed all of Paul Flather's "Gang of Four" have been the subject of council decisions. Moreover, there is not anything particularly remarkable about a decision not to grant an application in total being followed subsequently by a full award. Frequently we give advice about improvement or changes of direction which mean that later applications are more successful;

● The role of the economics committee in all this is to provide recommendations, based on well established and tried academic criteria. That committee has never, as far as I know, been in any doubt about its views, and economics does will testify (sometimes ruefully) to the quality and rigour of the committee's evaluations. They are tough guys, and it is no part of my job to seek to emasculate them.

Yours sincerely,
MICHAEL POSNER,
Chairman, Social Science Research Council.

Some crucial details

Sir,—I found Susannah Tarbush's article "Showdown for the West Bank fledgling system" (*THES*, January 30) very informative and sympathetically written. But she has missed out a few crucial details in the absence of which no true and balanced picture of the situation can be formed.

Prior to the Israeli occupation of the West Bank there were no universities there. These were created not because "pressure mounted to upgrade Bir Zeit to full university status" but because at that time Israel sought to improve *all* facilities in the West Bank, including health and education, in order to prompt a true measure of goodwill between Israel and the Palestinians of the West Bank. That she has failed in the latter is not entirely Israel's fault: the PLO has a lot to answer for that.

Nor are the measures adopted by the West Bank Military Governor as arbitrarily oppressive as one may think from reading Miss Tarbush's article: they were prompted by the nature of the universities themselves—Bir Zeit in particular—which have become centres for seditious and terrorist activities against Israel. This has been substantiated by several incidences involving students and staff.

It is all very well to invoke the 1949 Geneva Convention concerning changes in occupied territories but Miss Tarbush does not seem to complain about the very act of establishing the universities, which in itself constitutes a change, and hence a contravention of the convention.

And if one is to insist on the finer legal points of the convention, it should also be remembered that Jordan illegally annexed the West Bank in 1950 and, therefore, the strictly legal status of the West Bank does not lend itself to the application of the 1949 Geneva convention on occupied territories.

Yours faithfully,
DR. GEORGE GARAI,
Director,
Zionist Federation of Great Britain.

Dearth of information

Sir,—Since my arrival in England on study leave from Australia, I have looked forward each week to reading the *THES*. At first I thought the dearth of information about academic thought, research programmes and conferences in the United Kingdom was related to the Christmas vacation period. Since then I have come to realize that this was not the case. The reason is simple: once the roughly categorised articles in each edition, the contents covers running into four pages, and one looks at the institutions in the United Kingdom are to maintain their status and credibility, surely they must keep the domestic public and overseas academics informed as to their achievements and endeavours?

It would appear from your supplement that the study of economic decline (but certainly not English) is a viable academic pursuit; in the United Kingdom.

Yours faithfully,
BRIAN BACCUS,
School of Education,
Macquarie University,
Sydney.

Management and the academic world

Sir,—Reading your series of articles on Management Education, I was struck by the wide gap in thinking between management academics and managers. May I try to suggest why.

As everyone knows, managers need two kinds of expertise: [illegible] professional understanding—[illegible] chemistry, accountancy, engineering or whatever: secondly, managerial ability—the ability to work with other people to get things done. For the first kind of expertise there is a very high content of *knowledge*, that is, and is almost entirely composed of *skill*. Academic courses could knowledge pretty well—indeed cannot conceivably do without graduate engineers and chemists. But in a managerial area like human relations, most of the *knowledge* a manager needs (setting aside legal requirements) can be conveyed in a slim pamphlet. What he does need is to be able to apply a few simple principles (e.g. that people tend to become committed to a task when they accept the aims and share in the planning): but to apply these with perceptiveness, sympathy and dexterity. When Mr Ricket (in his generally admirable article) says "the skill of working with people to achieve results is ... partly acquired by studying behavioural science", he exaggerates; one might as well say that the way to learn to bowl is by studying ballistics.

Skill can certainly be learnt—but most readily by a sequence of action, review and planning to improve (to compress Kolb's four stages, quoted by Mr Binsted). Action is what the manager is paid for: "reflective observation" and "abstract conceptualisation" (to quote Kolb again) are rare luxuries—though vital if a manager is to improve his skill. These are the stages at which a teacher can help, not by whisking the manager away for a three-year degree course (which few people can afford to do) but by injecting the occasional hour, day, week or month into work experience.

Employers recognise this: so do whole they prefer to pay [illegible] dized) consultants to [illegible] courses, rather than to make use of heavily subsidised management education. The most useful training programme is one that leads from reflection forward into action: when the day after a course ends, the consultant pops up from behind the manager's desk with a cry of "I've learnt!"

No doubt educators will say that this is not their business; they are concerned with higher and more fundamental things. A pity, for its pragmatism conceals, and therefore leaves unresolved, one of the real dilemmas raised by the affair.

That dilemma is not the superficial one of structuralism vis-à-vis traditional approaches to literature, nor whether an academic's ideological convictions should obstruct his career—to the second question there can be only one fair answer. The deeper dilemma is how university departments selecting staff are to cope with the accelerating process of specialization which is sweeping through the humanities and social sciences now as rapidly as it did through the natural sciences a decade ago.

In this respect the MacCabe episode is only symptomatic of a problem which is already widespread and which is likely to recur more often as the pace of specialization outstrips the growth of the higher education system. Last week, for example, *The THES* reported another controversy at Cambridge in which a psychologist close to the critical school was refused upgrading within a university committed to experimental and biological psychology.

Some disciplines, particularly the non-experimental social sciences, have proved so fissiparous that simple communication between rival schools of the same subject is becoming extremely difficult. The disintegration of the positivist consensus within social science has created isolated islands of marxists, phenomenologists and positivists who are growing oblivious of each other's existence. The MacCabe affair shows that even the sober disciplines are being infected.

The fourth dimension

Sir,—For some years I have been working on the history of the fourth dimension, with particular reference to Edwin Abbott Abbott (1838-1926), author of *Flatland* and forty other books and friend of Canon Canter, his life-long friend. I would be extremely grateful if any reader who can help me to locate Information or papers of relevance.

Yours faithfully,
Prof. THOMAS BANCHOFF,
Institut des Hautes Etudes Scientifiques,
35 Route de Chartres,
Bures-sur-Yvette,
France.

Letters for publication should arrive on Tuesday morning at the latest. They should be as short as possible and should be written on one side of the paper only. The Editor reserves the right to cut or amend them if necessary.

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Planning the universities?

One of the saddest features of discussions about higher education policy is the failure of the universities to participate very much in them, and their consequent domination by the polytechnics and colleges. Of course there are honourable exceptions to this predominant pattern of university disinterest (most of them concentrated around the two poles of London and Lancaster). There are also honourable excuses. Higher education has shaky foundations as an academic discipline and the administrative differences between the two sectors mean that the policy agenda on each side of the binary line is quite different.

The unfortunate result, however, is that often we have not one but two debates about the future of higher education, which at the best proceed in virtual isolation from each other and at the worst attempt either to place the blame for all present troubles on the unfair advantages possessed by the other sector or to export future troubles to the other sector. What is lost is the opportunity for *all* sectors to engage in a coherent and responsible debate about the future of *all* higher education.

In these circumstances it is a safe prediction that the Government's new plan to establish a national body for polytechnics and colleges will arouse little interest in the universities. It will be seen as almost irrelevant to their troubled future. Indeed the DES paper seems to support this complacent assessment. It contains only one brief paragraph on the future status of the University Grants Committee, and within this paragraph there is the briefest of phrases about facilitating cooperation between the UGC and the new national body.

However it is difficult not to believe that the creation of such a body will have a substantial effect on the universities. The sea change in higher education policy represented by a national body will wash over them as well. The only question is really about its long term effect. Some, the optimists, will argue that a more rational and effective system for controlling the polytechnics and colleges will set the universities free. They will hope that the Government will be content to regulate the whole system through the detailed control of the non-university sector (which translated into everyday language means that the universities could be left alone while the polytechnics and colleges suffer any necessary contraction of money or students).

Others, more realistic perhaps, will argue that the creation of a national body will notably increase the pressure on the universities to conform to Government policy. This might happen in two ways. First, the national body seems to be conceived of principally as an engine of (certainly) rationalization and (probably) contraction. The performance of the universities and especially of the UGC in these difficult areas is at present regarded as good by ministers. But it might well appear in a less favourable light when it has to be compared to that of a powerful national agency rather than, as at present, with the rather less than enthusiastic performance of more than 100 local education authorities in cutting their colleges. Then the UGC might come under greater pressure to be more interventionist.

Secondly, the existence of such a national body is bound to increase the pressure for effective overall national planning of higher education, an activity which traditionally has been regarded as against the best interests of the universities. Moreover under present conditions the brief for such planning is likely to be profoundly conservative. The future that will be planned is one of declining public expenditure on higher education and declining student numbers.

There is, of course, a strong case for more coherent national planning, just as there is a strong case for a national body. But just as the latter must be more than a cloak for cuts and contraction, so the former must be conducted within the tradition of autonomy enjoyed by higher education. There is no room in that tradition for centralized bureaucratic planning that seeks to impose a politicians' consensus on judgments that should properly be made by academics. Seen in this light, this plan for a national body could be as much a threat, although indirect, to the future autonomy of the universities as it already is to the present potential of the polytechnics and colleges.

Faced with this process, it is virtually impossible for university departments to find objective standards by which to assess the competence or originality of academics adhering to new schools of thought.

To resolve the dilemma departments must choose between three possible courses. They can encourage diversity and risk losing intellectual coherence (with spectacular and often disastrous consequences for the quality of teaching). They can cling to their own preferred intellectual doctrine and risk becoming insular and intolerant. Or they can create new departments and thereby hasten the process of disintegration.

None of these options is obviously better than the others. What is important is to recognize that they exist; so that future manifestations of the MacCabe syndrome can be treated as the complicated disciplinary problems they are, rather than the clear issues of academic justice which they are not.

Isolated islands of discontent

The unseemly eruptions of the Cambridge English faculty have subsided this week as the MacCabe affair feeds through the unflappable machinery of the university's government. Meanwhile, Dr Stephen Heath, a fellow of Jesus College, has proposed an elegant solution to the problem involving the creation of a new department of modern studies into which the English faculty dissidents can be safely quarantined. At first glance this solution bears all the signs of a sensible, conciliatory and very English route out of the mire. But on its pragmatism conceals, and therefore leaves unresolved, one of the real dilemmas raised by the affair.

That dilemma is not the superficial one of structuralism vis-à-vis traditional approaches to literature, nor whether an academic's ideological convictions should obstruct his career—to the second question there can be only one fair answer. The deeper dilemma is how university departments selecting staff are to cope with the accelerating process of specialization which is sweeping through the humanities and social sciences now as rapidly as it did through the natural sciences a decade ago.

In this respect the MacCabe episode is only symptomatic of a problem which is already widespread and which is likely to recur more often as the pace of specialization outstrips the growth of the higher education system. Last week, for example, *The THES* reported another controversy at Cambridge in which a psychologist close to the critical school was refused upgrading within a university committed to experimental and biological psychology.

Some disciplines, particularly the non-experimental social sciences, have proved so fissiparous that simple communication between rival schools of the same subject is becoming extremely difficult. The disintegration of the positivist consensus within social science has created isolated islands of marxists, phenomenologists and positivists who are growing oblivious of each other's existence. The MacCabe affair shows that even the sober disciplines are being infected.

The CSD's academic allies

There has already been considerable comment about the fact that the newly formed Council for Social Democracy is an academics' party. Certainly there were many prominent figures from the world of higher education on the list of supporters published in *The Guardian* last week. But it is unfair to go on from this and to conclude therefore that the CSD either should be stigmatized as a party of impractical idealists who know very little about the blood and dust of electoral politics, or is destined to become the party of the well-heeled, liberally-inclined intelligentsia. Sadly in a society overflowing with philistinism and increasingly unsympathetic to noble ambitions for its own future, higher education and those who work in it are cast in deeper and deeper shadow, so these false conclusions are all too likely to be drawn.

In fact there are two other conclusions that can be drawn from the formidable academic presence in the CSD which are much fairer and more realistic. First, social democracy is that strand in the socialist tradition that is least sympathetic to revolutionary eschatology and most hostile to dangerously simple slogan/theories that are designed to stir political emotions. It is a cerebral party that makes no attempt to simplify the world (it recognizes that neither monetarism nor Bennite socialism can be an answer to the multi-dimensional problems faced by British society) and it is prepared to live with the reality of political ambivalence. Like the facts that most people think trade unions are a good thing but also that they have too much power, or want better public services but resist paying higher taxes). This style of politics is perhaps doubly attractive to the British academic mind, because it does not run away from the inevitable sophistication of modern life and because it is essentially pragmatic and hostile to "total" solutions.

The second conclusion is perhaps more important. Academics often have Whiggish temperaments. They live the idea of progress in their work, because in many disciplines the achievements of each generation are built on those of past generations. The faded metaphor about expanding the frontiers of knowledge has the substance of truth. They are also for similar reasons future-oriented (if that does not sound too much like General Haig). This quality extends to the whole enterprise of higher education. So it is not particularly surprising that social democracy with its essentially optimistic and progressive view of human development should be more appealing to many academics than, the gloomy practices and predictions respectively of Mrs Thatcher and Mr Benn.

This does not mean that the CSD is all right. Most of its ideas far from being radical, are the well rubbed coinage of Butskellism. Nor does its tactical sense appear sure. But it does mean that there are many honourable and generous reasons why so many in higher education should sympathize with its aims.

Old teaching problems get a new look

William Taylor

With the fate of the colleges of education apparently settled, the Advisory Council on the Supply and Training of Teachers wound up, and few confidential documents or decisions to be revealed, teacher education has been out of the headlines for the past year or two. Issues that used to be particular to this sector of post-secondary education, such as regional coordinating machinery for courses and programmes, have been swept up into broader considerations of public sector organization and finance.

Now things are on the move once more. The advisory committee is back in business, under new management and with many new faces round the table. The substitution of "education" for "training" in its title could be cosmetic but might be significant. Time will tell.

Public sector education lecturers have managed to find a formula whereby members of different associations can cooperate with heads and others to form their own teacher education committee. Moves are afoot for them to join with university interests as a step towards forming a Joint Council for the Education of Teachers (JCET). The Department of Education and Science has set up transitionary study groups to which Council of Local Education Authorities and University Grants Committee are nominating, to consider both teacher education and regional organization.

ACSET, JCET (if and when it is formed) and the new transitionary working groups will be taking documents, departmental papers on continuing vocational education's fondness for entrepreneurial full-cost models with the employer picking up the tab is manifestly inappropriate in the case of INSET, a fact acknowledged only in footnotes.

Universities, long the chief providers of award-bearing INSET, are in varying degrees of financial difficulty. The fees they collect from full-time students now constitute a much more significant proportion of their income than was once the case. What they charge to part-timers is often only a fraction of the full-time, let alone the full-cost fee. There are moves in some places to charge the part-timer the full what his full-time counterpart must pay. Local authorities are unlikely to welcome bills in excess of £500 for each year of an evening course. Since about half the teachers on such courses pay for them out of their own pockets, increases of this kind might have alarming consequences for long-course INSET.

The real answer may be found in the introduction of a national scholarship scheme for serving teachers, developing such a grant, which LEAs detest, and earmarked grant, which universities rejected years ago. Such a scheme might operate in both full-time and part-time modes, with area quotas.

Structural, administrative and financial considerations should not be allowed to dominate discussion of the future of teacher education. It is the content of the courses themselves, their impact on the knowledge, attitudes and performance of beginning and experienced teachers that merit pride of place. In this respect reorganization settled nothing. There should be no shortage of agenda items for teacher education bodies in the months and years ahead.

Faced with this process, it is virtually impossible for university departments to find objective standards by which to assess the competence or originality of academics adhering to new schools of thought.

To resolve the dilemma departments must choose between three possible courses. They can encourage diversity and risk losing intellectual coherence (with spectacular and often disastrous consequences for the quality of teaching). They can cling to their own preferred intellectual doctrine and risk becoming insular and intolerant. Or they can create new departments and thereby hasten the process of disintegration.

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